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THE IMPLICATIONS FOR FUTURE URBAN GROWTH OF LAND FRAGMENTATION IN URBAN FRINGE AREAS: A REVIEW OF RECENT EXPERIENCE

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PREFACE

This report summarizes a review of recent experience across Canada, particularly in Alberta, with one aspect of urban fringe planning - the fragmentation of future urban land supplies. This focus was chosen because the Urban Fringe policies in the Calgary Regional Plan are intended to protect future long-term growth options for urban municipalities. A lead was taken also from the Commission's Co-ordinating and Research Committee which identified fragmentation as an essential component of resubdividing small parcels in urban fringe areas.

It is recognized that there are aspects of urban fringe planning, other than fragementation of land ownership, which could have been reviewed. Even within the topic of fragmentation there are impacts left unexplored in this review, e.g. on the individual landowners, on the rural environment and on agriculture. Nevertheless we trust that the reader will appreciate the value of focusing limited staff resources on the issue covered in this report, without implying that these other urban fringe topics are unimportant.

THE IMPLICATIONS FOR FUTURE URBAN GROWTH OF LAND FRAGMENTATION IN URBAN FRINGE AREAS: A REVIEW OF RECENT EXPERIENCE

BACKGROUND TO STUDY

Since the ratification of the Calgary Regional Plan in May of 1984, there have been over fifty applications made to have the Plan amended. Of this number, thirty-four were proposed "site specific" amendments within the Urban Fringe Part of various urban centres in the Region for country residential, hamlet expansion or rural industrial purposes.

Many of the country residential proposals originated from applications to re-subdivide twenty-acre rural holding parcels found throughout the Region and in particular, within the City of Calgary's urban fringe. Originally these rural holdings were intended to accommodate small scale, hobby farm uses considered to be agricultural pursuits. For the most part, however, this never occured as a large majority of these parcels are now being used primarily for residential purposes.

The preceding observations are documented in a study that the Commission undertook in 1985/86. The preliminary report on "Some Characteristics of Small Parcels in the Calgary Region" set out to determine the existing uses of small parcels (defined by a registered parcel size of between three and thirty-five acres). The argument advanced by some Commission Members was that existing parcels of twenty acres or less were not viable farming units and should not be prevented from being subdivided on the basis of the agricultural capability of the parcel. The Co-ordinating and Research Committee of the Calgary Regional Planning Commission set out to examine the relationship of small parcel resubdivision on higher capability agricultural land and came to the following conclusions:

> "Agricultural capability of the land to be resubdivided is not the sole reason against the resubdivision of parcels of 20 acres or less, as the

> fragmentation of land in the urban fringe areas is an essential aspect of the problem of resubdividing parcels of 20 acres or less; . . ." (CRPC, April 4, 1986).

As a result of this investigation the issue of resubdividing small parcels, particularly in the Urban Fringe Part, has shifted from a concern with protecting a natural resource to protecting urban growth corridors.

FOCUS OF STUDY

As mentioned at the outset, the Commission is now in the midst of deciding on an on-going series of Plan amendments that may have the effect of further fragmenting land in urban fringe areas and by deduction, growth corridors of the major urban centres in the Region. The purpose of this investigation therefore, was to critically and objectively analyze the implications of such fragmentation and suburban development in urban fringe areas. This focus was selected because the urban fringe established under the Calgary Regional Plan is intended as a mechanism to protect future long term growth options for urban municipalities. Therefore, the question this study explores is what are the impacts of fragmentation of an urban municipality's future urban expansion lands and secondly, how significant are these impacts. It is recognized that fragmentation may also have impacts on the rural municipality, the environment and the agricultural sector but this is not the subject of this study.

STUDY METHODOLOGY

It was determined to initially investigate the topic by undertaking an extensive literature review. This review served to provide a general understanding of the overall issues and more specifically, to identify what information and research findings were available on the topic. The readings reviewed were selected from extensive bibliographic lists provided by the Intergovernmental Committee on Urban & Regional Research (ICURR), Nomads Data Base, CODOC Data Base, Geo Abstracts Annual Index, Current Geographical Publications Annual Index, the City of Calgary, Alberta Municipal Affairs and our own Library. As well, we reviewed masters theses on microfiche from the National Library of Canada and annual listings from the University of Calgary and University of

Alberta. Subject access and key word access codes were used in order to select relevant literature. As a rule of thumb, we selected current studies and articles on the topic and did not review many historical (pre-1960) reports. As a result of the literature review, it was discovered that there was a noticeable absence of current information on the planning practices and experiences of individual Canadian urban municipalities.

In order to address this information gap, we undertook a questionnaire survey of 39 urban municipalities across Canada. As the main purpose of the survey was to gather opinions and experiences and uncover any relevant municipal studies on the topic, a non-probability sampling method was used. Thus the findings of the survey have not been extrapolated to predict trends for Canadian municipalities. The survey results indicate that the range of municipalities in terms of size, provincial jurisdiction, history, growth rates and the like makes comparisons among them difficult. The survey findings show that there are a wide variety of experiences with and approaches used for the preservation of land for future urban expansion. The high rate of return (72 percent) on the questionnaire and the many letters attached to responses demonstrate the interest in this topic across Canada. Many special studies and reports prepared by various municipalities on the topic were forwarded by respondents and proved to be valuable information sources.

The questionnaire survey was supplemented by personal interviews with professional planners working for selected municipalities in Ontario and Alberta. These interviews provided an opportunity to explore the experiences and approaches of these municipalities in greater detail. The interviews proved to be one of the most valuable information sources.

The information outputs from the literature review, the questionnaire survey and the personal interviews with planning professionals were then reviewed and analyzed to identify relevant themes and issues. Volume I contains a summary of our research findings. Volume II, a technical appendix, contains the various background materials used in preparing this study.

OVERVIEW OF THE FRINGE ISSUES

> "The urban fringe land space is a major subsystem of our emerging city of today. The question is not whether we will have an urban fringe around our cities, such zones are part of our regional city form. Rather, the question is whether they can become zones in which the land space resource will be increasingly used in a more rational, more optimizing way to benefit both individuals and the collective body at national, provincial and municipal scales" (Russwurm, 1980, p. 476).

There is an abundance of literature, research, and interest across the country on the issue of land use in the rural-urban fringe of cities. The planning issues and experiences are well documented and suggest that the manner in which this urban fringe land space resource is used is a critical question facing the future of our city form. It is also perhaps the single most critical issue in regional planning, especially in regions characterized by a mixture of urban and rural jurisdictions. The fringe issue includes many themes of which fragmentation of future urban development lands is merely one area of concern. In order to better understand the nature and roots of our specific topic, therefore, it is necessary to review the general framework of the "land use" issue in the fringe. A brief discussion of the trends, features and themes of the fringe land space is included for these purposes.

The pattern of fringe development surrounding North American cities has been uniquely described as "urban splatter" (Fisher, 1980, p. 15). Basically, the fringe is the land space surrounding or adjacent to urban places. Russwurm characterizes the urban fringe as "extending from within the legal area of the city into several surrounding municipalities. In a conceptual or spatial sense, the urban fringe includes the zone which will become the location of most of the building additions to existing cities" (1977, p. 23). It is due to the transitional nature of this land space that land use conflicts arise. The fringe is characteristically the seat of conflict between actions of individuals and municipalities, between present uses and future uses, between economics of "highest use and value" of land and the collective public interest.

Analysis of population patterns during the late 1960's and 1970's has shown a substantial movement of population from urban centres and metropolitian core areas outward to the surrounding fringe. The literature suggests this new pattern of settlement has emerged as a result of several factors. The new affluence of modern society has permitted people to make choices about the location of their residence. Secondly, today's ease of movement and communication facilitates a greater separation of home from the workplace and other functions. Work, shopping, cultural attractions and services are as accessible to fringe dwellers as they are to city dwellers. Russwurm notes: " All in all, the locational disadvantages of living up to 80 kilometres outside cities have been increasingly minimized since World War II. As a consequence, the advantages are magnified" (1980, p. 457). Another reason is described as life style preferences or socio-cultural factors. There has been a substantial amount of research on this topic with all conclusions stating that there is a desire and demand for the amenities of rural living by a certain sector of the market. Studies show rural non-farm households desire space and privacy and have a high satisfaction with rural living (Dueker, 1983). The Warren Gill Study found there are two mainstream lifestyle groups emerging in our society, the "Yuppies" who choose inner-city neighbourhoods and the "Rurbans" who are appended to the City because they find it advantageous economically but detest it and live in the fringes. "They live as near to the city as they dare, but no further" (UBC, 1984, p. 33). Another factor that may contribute to this dispersed settlement trend in the fringe is the speculative attraction of the land for profit.

Several authors suggest that government policies have further encouraged the pattern of dispersed settlement in urban fringes. Russwurm suggests that the "acceptance by Canadian society that people are entitled to some common level of accessibility and services whether located in the built-up area or outside of it helps ensure sizable urban fringe zones around our cities" (1980, p. 474). For example, studies examining factors relating to sprawl in New Brunswick indicate that provincial policies to provide rural infrastructure (highways, recreational facilities, health care, education, police protection, streets, utility services, etc.) contribute to the emergence of a dispersed settlement pattern. They note that "when an individual moves from an urban centre to an outlying area, such a move is not perceived as a reduction in the number and quality of services provided in urban centres" (Comay, 1980, p. 99). This effect of government policies indirectly promoting scattered fringe development was also noted by Seasons (1985) in Alberta, Jackson (1981) in the Niagara Region and several authors in the United States. One final factor encouraging this population dispersal that has been cited by several authors is the ready availability of farmland for residential development in many jurisdictions.

Thus, the literature suggests a new form of urban development is emerging with the movement of sub-groups of the population to the fringes of urban places. The residents are dependent on the proximity of the urban centre for employment, shopping and recreational opportunities to the extent that they might not consider rural living an option if a city or town were not reasonably accessible (Skaburskis, 1981). This existence of a strong preference for rural living will likely be a continued demand even in the face of higher energy costs. (Dueker, 1983) Combine this rural residential demand with competing land use interests (agriculture, recreation, urban expansion, resource extraction industries, environmental preservation, etc.) in the same fringe land space and the conflicts become apparent. The land surrounding our cities must serve three broad functions, namely a natural environment, a production environment and a lived-in environment (Russwurm, 1977, p. 39). These three functions, if not managed through an overall regional land use strategy can create land use conflicts and problems.

The fringe issues covered by the literature are extensive. For information purposes, we have included as an appendix a summary of the issues identified with development in the fringe. These issues have been attributed by various authors and municipalities to the ineffective management of regional growth and settlement patterns in the fringe. The appended list illustrates the broad implications of dispersed development in the fringe.

From the list, it is apparent that many of the issues directly affect urban places. Of the fringe issues, we have focused on the fragmentation of future urban land supplies.

STUDY ISSUE: FRAGMENTATION OF FUTURE URBAN GROWTH LANDS

One of the major concerns related to suburban development in the fringe is the increased fragmentation of land tenure patterns on lands needed for urban expansion. Underlying this concern, is a basic concept that urban growth should be directed in a manner which minimizes conflicts and public costs and thus, best serves the interests of the entire regional population. A City of Winnipeg report summarizes this goal as follows:

> "The real estate market operates through the buying and selling activities of many individuals. The multitude of individual decisions are blind to their cumulative effects. Conventionally, the effects of development had been realized only after it occurred . . . agencies supplying services were able to integrate the scattered countryside developments into their service framework and perpetuate the haphazardly formed settlement pattern. The above inefficiencies may have been acceptable amid the affluence of a growing economy. But circumstances are changing, we are entering a period of restraint and low economic growth prospects" (1978, p. 33).

A number of studies have attempted to measure the actual effect of population density and settlement patterns on public service costs. These studies suffer from a variety of deficiencies and recognize this fact in their findings. Research studies based on statistical analysis of actual urban expenditures and on an engineering approach of estimating service costs for hypothetical development alternatives demonstrate that a lack of concrete information renders it difficult to measure the full extent of actual costs (Fisher, 1983, p. 7). The following list indicates some of the difficulties reported by various studies which attempted to quantify impacts of fragmentation:

- need to separate out density-related costs versus distance-related costs
- accuracy of estimated population densities
- assumptions on what costs are charged to the developer
- allocation of costs of services such as arterial roads to particular developments
- difficulty of identifying users of services
- need to account for fact that maintenance costs of roads and other services become a public cost once development is completed
- assumptions on whether development will use existing roads or will require improvements to existing roads or construction of new roads

- can only estimate probablistically the costs of demand-responsive services such as police, fire, ambulance, schools and school bussing, street cleaning, etc.
- how to account for impacts of service area boundaries
- assumptions on the level of service in the rural area as compared to the city
- difficulty in allocating costs subsidized by provincial progams (rural roads, provincial highways, power and telephone service, services such as health, education, protective, etc., infrastructure grants, etc.)

While public service cost studies were not able to identify actual costs for all the above items related to fragmented development patterns, they did have definite conclusions with respect to the impacts on public sector services. (Manitoba Dept. of Municipal Affairs, 1973); (Fisher, 1980); (Comay, 1980); (Skaburskis, 1981). Although in many cases actual costs are not measurable in quantifiable form, the problems and costs associated with land fragmentation are nevertheless real and significant. If an urban municipality inherits a dispersed pattern of development, there will be greater public costs for urban development of these areas relative to unsubdivided areas.

An examination of what these public costs are and how fragmentation of future urban lands contributes to them is contained in the following section.

Several issues have been identified as repercussions of fragmentation of rural fringe lands prior to urban density development. These issues are described as follows.

1. Land Assembly

The character of land tenure preferred by the development industry is characterized by the City of Calgary as unsubdivided and not built on. This is confirmed by the experiences of cities such as Edmonton, Vancouver, Saanich and Winnipeg. The province of Manitoba notes with respect to rural residential development in the fringe that "planning for further development has to overcome the difficulty presented by multiple ownership and the established pattern of land development. This situation forces developers to abandon these areas in favour of areas easier to assemble" (1973, p. 11). Multiple parcels increase the number of owners who have to be dealt with and makes future large scale land assemblies difficult (Russwurm, 1977, p. 45). Leapfrogging, whereby developers bypass fragmented lands for bare land further out can extend the urban area much further into the fringe. The resulting settlement patterns have implications for extending the area of land use conflicts, waste of land resources and increased public service costs.

2. Replots

Where cities have had to incorporate rural residential developments into the urban fabric, problems involving the resubdivision and layout of the development have been encountered. The mechanism for implementing a resubdivision in Alberta is a replotting scheme (Planning Act, Section 131). A replot presently requires 90% owner consent before it can be implemented. Again, multiple owners with different attitudes and interests, complicate the possibility of reaching agreement on a replotting scheme. If one adds to this agreement process possible complications such as redistribution of land values, relocation of roads or service rights-of-way, the success of this planning process is unlikely. The experiences of Edmonton, Calgary and the County of Strathcona confirmed the "impossibility" of using replot schemes to implement the resubdivision of country residential areas. In the United States, Johnston undertook a study evaluating the effectiveness of infill development versus growth phasing in cities and concluded that growth phasing is easier to accomplish: "It is more difficult legally and politically to mandate or encourage 'infill' development than to prohibit non-contiguous projects" (1984, p. 443).

3. Subsidized Public Services

Scattered rural residential parcels in the fringe area lead to higher costs of public services. The cost effective provision of services requires compact continuous development. Costs of services like roads, ditches, water mains, sewers, power and gas lines are proportional to their length and the number of users (Saanich, 1984) (Russwurm, 1980). Equitable and economic provision of services requires compact, continuous urban development (Fisher, 1980). Studies show that in fringe areas the average frontage per household is about 2 1/2 times that in developed urban centres (Manitoba, 1973, p. 9). Concern is expressed in numerous articles that non-farm fringe residents are presently subsidized as costs are spread over the entire rural municipality. Once part of the urban centre, these areas will redevelop in a piecemeal fashion even when urban services are made available. The City of Edmonton notes that country residential development represents at a minimum, a 20-year delay in the normal development process. Urban densities will develop around the parcels, while the costs for urban services are spread over the whole municipality. Fisher concludes:

> "The evidence on the public sector costs of fringe development shows that the subsidies to leapfrog subdivisions can be very substantial. Residents of non-contiguous developments rarely pay the full incremental cost of providing public facilities and services; instead, they pay only the same average cost as other city taxpayers. Since it is more costly to serve outlying areas, leapfrog development raises average costs. All city residents end up paying more for services, thereby subsidizing costly development patterns" (1980, p. 46).

4. Increased Urban Residential Land Supply Requirements

The City of Calgary notes that country residential development located in an expansion area would make it difficult to estimate the amount of reasonably developable residential acreage available for urban development. The tendency for resubdivision of these country residential areas to occur on a piecemeal, small scale basis is an aspect of fragmentation that is not offset by preplanning to facilitate future resubdivision to urban standards. As the City of Edmonton notes, these areas lag behind everything else and represent lengthy delays in the normal development process. The County of Strathcona notes a similar problem of being unable to determine what the ultimate densities of the country residential areas might be in terms of planning for future urban services as resubdivision and infill of these areas is such a slow and unpredictable process. Thus, if large areas of country residential parcels become part of an urban centre's residential land supply, then the municipality will likely need to annex more extensively to ensure a sufficient supply of readily developable land (Calgary, 1986, p. 24). This results in a greater consumption of land resources in the urban fringe.

5. Servicing Cost Recoveries

Given the uncertainty as to lot yields and the lengthy lag in the redevelopment process for country residential parcels, there are impacts on the municipality and developer for recovery of servicing costs. The City of Calgary makes the following comment:

> "The City normally front-ends the capital cost of most engineering services, their cost is usually recovered through acreage assessments and utility rates in the long run. If development occurs at a slower rate than expected or on a piecemeal basis, it is possible that the City may be unable to recover the unreasonably high acreage assessment charges that could result" (1986, p. 24).

Fragmentation of the fringe lands may also impact on the developer's costs and risks of developing around country residential parcels. Many municipalities require the developer to front end costs of over-sizing of services in a development cell. Thus, the initial developer must size his pipes for everyone that will eventually tie into the area. Agreements are made through the City whereby the developer will recover these costs as subsequent developments come on-stream. However, with the uncertain timing of urban infill of country residential areas, the developer cannot be certain when he will recover his costs, if ever.

The County of Strathcona expressed concern with the issue of who pays for the over-sizing of services through country residential areas. If the distance to extend urban services through these fragmented lands is too great then developers would find the front-ending costs prohibitive. The municipality may be asked to finance these costs. Or if they are paid by the developer, the cost of his development could substantially increase.

An additional concern, as expressed by the County of Strathcona, was the uncertainty as to what the final lot yields of the country residential areas would be and thus how to plan for over-sizing of services.

6. Upgrading of Sub-standard Services

Most urban municipalities require developers to pay the total costs of putting in all services in urban subdivisions. This includes water, sewers, sidewalks, curbs, paved roads, lighting, etc. However, developers outside the urban boundary, in the fringe, are not required to provide the same level of services. Thus, as the City of Fredericton notes "the future upgrading of outlying development is a potential expense for the City". Crandall states that development in the fringe "does not put the obligation for installing and extending full services on the developer" (1977, p. 89). Thus, as an urban municipality annexes or amalgamates outlying areas, they will find varying service standards and demands for service upgrading. The City of Fredericton, in their letter, remarked that "many of the service systems inherited at amalgamation were substandard. The work involved in bringing these systems up to standard is still ongoing". In urban places, the overall costs of development are placed on the developer. Development of country residential parcels in the fringe at a lessor development standard does not. The municipality as a whole and future residents of the infill area will bear the costs of upgrading services.

A study by Crandall, 1977, found that this cost difference also impacted on the costs of senior levels of government who assist in the construction of services. The study found that directing growth into urban areas was more cost effective because it takes advantage of the investment in existing infrastructure systems.

7. Administration Costs of Special Unit Areas

As mentioned, the fragmented areas brought into the urban municipality will have varying services and service standards. A city, which is developed and administered on the principle of uniform service standards, will encounter additional administrative costs in treating the acreage areas as special service units. The City of Calgary noted this concern in considering the possibility of extending water services to the rural area, thereby creating a two-tiered water supply service - one rural and one urban with different levels of service. When an area is treated in a special manner with special services it will increase the costs of administering the entire public service system.

8. Increased Land Values

Land price escalation through subdivision of property is a well known phenomena (Halpenny, 1977). Smaller parcels are typically worth more per acre or square foot. As a result land values increase and affect surrounding properties (Russwurm, 1980) (Manitoba Department of Municipal Affairs, 1973). This price escalation impacts on both the developer who may be forced to leapfrog urban densities to unfragmented areas of lower land values and the farmer who, as a major landholder, faces an increase in assessment and uncertainty as to the viability of farming operations.

9. Possible Barriers to Annexation

Extensive fragmentation of a fringe area may lead to annexation difficulties when an urban centre attempts to extend its boundary. This is especially the case where the area is a high assessment generator for the rural municipality and to remove it would create a hardship. The City of Edmonton stressed this was an important issue in their most recent annexation application.

CONCLUSIONS ON THE ISSUE

An examination of the evidence confirms that fragmentation of future urban expansion lands into low density parcels poses high costs and constraints for the urban municipality. A study by the Lower Mainland Regional Planning Board of B.C. concludes:

> "It is in the best interest of the municipality to retain large farm areas as long as possible. In the ideal situation they would be held until they could pass directly into compact urban residential use, bypassing costly low-density development" (1956, p. 28).

The Municipality of Saanich, in establishing their urban containment concept stated that such a mechanism was "a means of both facilitating agricultural uses on a long term basis and ensuring that fragmentation will not reduce future development options within the area" (1977, p. 41).

These conclusions are supported by the experiences and evidence of the literature reviewed. Another conclusion, stemming from the need to control fragmentation of future urban lands, was that country residential development is not a transitional land use which can be readily converted to urban density development. The experience of municipalities in Canada is that country residential development does not convert in any reasonable or predictable time frame and in fact contributes to higher public costs. Ultimately, the yield, cost and timing of conversion are uncertain. The evidence recommends that country residential developments be treated as a final land use demand. Russwurm, 1980, suggests:

> "What is needed, if the right to rural residences for urbanites continues to be accepted, is designated areas for small cluster developments based on mostly small but variable lot sizes, fitting into a regional plan which tries to recognize potentials and conflicts for various land use activities."

The Manitoba Department of Municipal Affairs states:

> "Rural residential development should be encouraged to locate in designated areas and guided by sound planning principles" (1973, p. 33).

Towards this objective, the Province of Manitoba established a Land Use Policy #3 which states:

> "Lands may be designated for Rural Residential Development provided that the siting and design of such development shall reflect its role as an alternative to the urban lifestyle and not as an evolutionary step towards an urban environment."

The County of Strathcona, in their 1986 General Municipal Plan restrict the land uses to the following in urban growth areas:

> "Appropriate interim agricultural and non-permanent open space uses, which do not prejudice future urban development shall be encouraged in the areas designated for future residential and residential expansion" (p. 20).

Thus, the recommendations appear to be that country residential developments be recognized as a lifestyle choice, and located as the "end product" of a land use market. The planning implications are that it be sited in specific areas away from the path of urban expansion.

ALTERNATIVE POLICY REMEDIES

Several policy alternatives have been explored as possible remedies for fragmentation of land in the fringe. Supalla suggests that there is a divergence between social values (such as reduced public costs by discouraging sprawl, preservation of agricultural land and greenbelts around cities) and the market value of land. "Buyers and sellers of land rationally do not consider the needs of future generations or the environmental quality and public service costs imposed on other people because there is no economic incentive to do so" (Supalla, 1977, p. 6). Thus any planning actions which encourage use of land for more socially valuable uses will change the market value of land. This impact is an important consideration in any assessment of alternative land use policies in the fringe.

Five types of policy tools were noted in our research as options to control fragmentation in the urban fringe. These are briefly described as follows.

1. Land Use Policy Controls

These methods include such things as zoning, subdivision regulations and policies in Regional or Muncipal plans. Such methods regulate land use directly, providing a distribution of gains and losses associated with the restrictions. Supalla notes that "it reduces land value for the restricted landowners and provides others with a windfall gain" (1977, p. 8). He suggests that if such tools are to be equitable and politically feasible then a mechanism should be established whereby gainers compensate losers or public monies are used to compensate losers. It is interesting that in British Columbia, the implementation of the Agricultural Land Reserve did not allow compensation for agricultural zoning.

Nelson, in a study of the Salem, Oregon urban growth boundary, found that the use of an urban growth boundary and greenbelt zoning did prevent speculation of farmland (1986). He observed that "speculation was prevented in rural land markets as owners find their only economic use of land is for agriculture or other allowable greenbelt activities . . . On the other hand, if large-lot, low density residential zoning is applied to rural land instead of greenbelt zoning, then we should find that rural land is being traded for its value as low-density urban land and that speculation has remained in the rural land market" (1986, p. 158). This greenbelt zoning is also being used by the City of Brantford, Ontario.

Strong regional planning was often advocated in the literature to resolve the conflicting land use issues and problems in the fringe. Such an approach would include an overall settlement strategy for the region. It was stressed that regional settlement policies must be reinforced through the servicing assistance programs of the provincial and federal governments, rather than undermined.

2. Transfer of Development Rights

This method is most often used in the United States. It involves the transfer of development density from an undesired to desired location with compensation to the landholder retaining the land at a lower density. The benefactor compensates the loser by purchasing the loser's right to develop. The purchase can be made by developers or the public. Schwartz studied examples of the use of this mechanism in the United States and concluded that the program requires a well drawn land use plan and firm adherence to that plan in order to be successful. "The success of the program lies in providing sufficient incentive by prohibiting development in the preserve zone" (Schwartz, p. 171). The Municipality of Saanich has recommended this mechanism as a means of protecting environmentally sensitive areas. A form of density transfer was also used in the Calgary Region in the late 1970's to encourage clustering of country residential subdivisions.

3. Use-Value Assessment

This is a voluntary contract by municipalities with a landowner by which the landowner agrees not to develop his land for a specified minimum period in return for tax inducements. As a voluntary program, studies found that enrollment in the program is low because landowners tended to be overly optimistic about future price appreciation of their land.

4. Property Taxation Measures

Here the application of taxation measures is used to encourage some land use activities and discourage others. Supalla outlines some of the taxation options:

"(a) preferential assessment - tax agricultural land at its agricultural use value, not market value, until converted.

(b) deferred taxation - taxes assessed on market value, but farmer only pays agricultural use value and defers remainder until development occurs.

(c) restrictive agreements- landowners agree to maintain a given land use for a period of time in return for agricultural value tax assessment" (1977, p. 10).

He concludes that a tax policy which reduces taxes on agricultural land increases its agricultural-use value relative to urban values and consequently reduces the incentive to urbanize.

5. Service Pricing Policies

As previously stated, rural non-farm residents are subsized in the provision of public services. Several articles suggest that municipalities use pricing policies that force the developers of low density developments to pay the full cost of extensions, thereby eliminating the public costs of fragmentation and dispersed population. "Utilizing marginal cost pricing for services provided to rural residents would eliminate any hidden subsidy of rural development and encourage a more orderly and compact expansion" (Dueker, 1983, p. 128). Fisher, 1983, also recommends using pricing policies rather than a regulation strategy to reduce public costs. Such a technique, it is felt, would discourage landowners from creating low density developments for short term gain given the high cost of providing public services.

The application of these alternative land use policies varies depending on local circumstances and the priorities attached by decision-makers to land values as impacted by land use controls. For example, in Alberta many of these remedies are not applicable. We will now review some of the experiences of selected Canadian municipalities relative to the management of the urban fringe.

MANAGEMENT OF THE URBAN FRINGE: EXPERIENCES AND LESSONS

CALGARY REGION

In the Calgary Region rural residential development has proceeded in accordance with policies established in various regional and municipal plans. The 1963 Preliminary Regional Plan did not provide specific policies for rural residential development, but established a minimum parcel size of twenty acres for subdivision in rural areas. The 1971 Preliminary Regional Plan contained policies for rural subdivision and rural residential development. The Plan established a broad framework for development based upon a system of density districts combined with a schedule of permissible zones. It set a base density of four parcels per quarter section and a basic General Agricultural Zone in rural areas; however, by an independent decision of a municipal council, land could be reclassified to a zone which would permit a smaller parcel size and a higher density of development.

Provisions in the Preliminary Regional Plan allowed the creation of two, four and 20-acre parcels according to zoning categories. Density provisions allowed fifteen 2-acre parcels, seven 4-acre parcels, or eight 20-acre parcels in a quarter section. While the two, four and 20-acre sizes were established as minimum parcel sizes (depending on the zone), density and land coverage restrictions meant that these were also maximum sizes. The Plan also established corridors, two miles in width, adjacent to the City of Calgary within which parcels less than twenty acres in size were not permitted. The Plan attempted to ensure orderly development by requiring a demonstration of need, by making provision for density transfer and by encouraging the concentration of development in cluster designs.

In addition to regional and municipal plans, the Province established a Restricted Development Area (RDA) around Calgary made up of two components; a Transportation/Utility Corridor Planning Area and Environmentally Sensitive Areas. The Calgary Region has assisted in the administration of the RDA through co-operation with Alberta Environment in the protection of land from development and subdivision which may prejudice the future highway bypass/-utility corridor system or cause environmental deterioration.

The original Restricted Development Area extended some five miles out from the City but in 1984 this was substantially reduced leaving a corridor of variable width (from approximately 1/2 mile to one mile in width) and environmentally sensitive areas paralleling the Bow and Elbow Rivers in the vicinity of the City.

The Calgary Regional Plan ratified in 1984 does not contain specific density provisions for rural residential development. The Plan's objectives and strategies are given effect within a framework of three geographical parts, the Rural Part, Urban Part, and Urban Fringe Part.

Most relevant to the issue of land fragmentation in urban growth corridors is the Urban Fringe Part. The Plan states:

> "The purpose of this Part is to provide land for future urban expansion for urban municipalities and to act as a buffer between rural uses which may not be compatible with urban development. Several uses, including new country residential and rural industrial uses, are not permitted in the Urban Fringe Part without an amendment to this Plan."

The Plan establishes urban fringe parts of five miles, two miles and one mile based on population thresholds. The Plan also provides for the affected Councils to refine the initial urban fringe boundaries.

The Regional Plan encourages infilling of existing subdivided areas and clustering of new country residential subdivisions. The Plan states that "Country residential subdivisions in the Urban Fringe Part should be designed to facilitate future resubdivision and redevelopment to urban standards". The Plan strongly advises the preparation of "comprehensive" land use amendments for Urban Fringe Parts surrounding urban municipalities to ensure that co-ordination exists in urban and rural planning efforts.

The Regional Plan permits country residential development in the Urban Fringe Part, at the discretion of the rural municipality, where country residential was designated under the land use by-law in effect at the time of ratification of the Regional Plan. This does not prevent further subdivision of lands previously zoned for densities of seven to fifteen parcels per quarter section under the 1971 Preliminary Regional Plan. The density can be increased by the rural municipality as it sees fit. In Calgary's Urban Fringe there are large areas where this provision applies.

The cumulative impact of regional and local policies and the demand for country residential development over the years was documented in the "Twenty-Acre Parcel Study" conducted by the Calgary Regional Planning Commission in 1985/86. The study focused on parcels between four and twenty acres in size. There are 2,500 such parcels in the region occupying some 36,000 acres. Approximately 1,500 of these parcels are located within urban fringe areas. The region also has a substantial number of parcels smaller than four acres, however, specific data is not available on the total number of such parcels or their areal extent. In addition, there are large parcels zoned but not yet subdivided which can be further subdivided.

CANADIAN CITIES

The Calgary metropolitan area is one of the last remaining examples in Canada, if not North America, of an urbanized area under the political guidance of one authority. Our investigation of other major metropolitan areas in Canada reveals some variation on a metropolitan/regional form of municipal government organization as the norm. Recognizing this fact is important for two reasons. Firstly, in terms of a comparative analysis of the experiences and planning problems of Canadian metropolitan areas, the reader must be aware of the different organizational structures influencing the outcome. Furthermore, the extrapolation of these varying planning issues to the Calgary situation must be tempered by the historic, geographic and political settings in which they occur.

Having said that, there are valuable lessons to be learnt from the problems and issues facing other metropolitan areas. In defence of the retention of a unicity form of government, Calgary has argued that the highly fragmented system of municipal government practiced in such metropolitan areas as Vancouver, Victoria, Edmonton, Toronto, Montreal and Quebec City has resulted in many inefficiencies with respect to the provision and management of government services. A respected observer of the Toronto scene refers to their metropolitan system as a functional entity characterized by inertia, duplication and inefficiency (Bourne, 1986, p. 54). The context under which these criticisms arise may have more relevance to an Edmonton or Vancouver but nevertheless, the forces responsible for this are equally prominent in the Calgary Region.

Perhaps the single most important factor influencing intergovernmental relations at the municipal level is the quest for a larger and more diversified tax base. In the Calgary situation the urban and bordering rural municipalities may be approaching this in different ways (e.g. urban residential versus country residential). The end result however, may be the development of one at the preclusion of the other. The issue of fragmentation and its implications for the beneficial, economic and orderly development of the physical landscape should be considered in this context.

The City of Halifax, as an example, underwent a complete reversal of the process of urban concentration during the 1970's. The Provincial Government encouraged the decentralization of growth to the suburban communities and fringe areas which in turn, has caused structural changes in the City's economy. The underutilization of infrastructure (financed in part with Provincial monies in anticipation of growth), and a contraction of the tax base and resultant decline in funding levels from senior level governments, has precipitated large increases in tax rates in Halifax. These have compounded the City's efforts to attract new commercial and industrial development and precipitated such measures as annexation takeovers.

In the early 1980's, a combination of factors including increasing development on the periphery of Halifax and the relinquishment of a large tract of undeveloped land by the regional servicing commission, promoted the City of Halifax to commence annexation proceedings. They contended that these lands bordering the City were required to ensure a long term land supply and that they were the appropriate agency to oversee their development. The Nova Scotia Government concurred with the City and approved the annexation of roughly 5,000 acres in 1983. Halifax now has a 30 to 40 year land supply within their municipal boundaries.

Some of the literature suggests the regional economy of Halifax as the aggregate victim of government policies that permit the leapfrog progression of urban oriented land uses into the countryside. More recently, the Nova Scotia Housing Corporation and the Canada Mortgage and Housing Corporation have undertaken a land banking program on the border of Halifax. The City responded in our questionnaire, indicating that they now have an 11 to 20 year land supply outside of their municipal boundary protected for future growth due to this public land banking program.

The City of Montreal has also experienced population decline along with a deterioration of the assessment base in the central zone in recent years.

Meanwhile, the outlying sectors have experienced considerable pressures to expand their infrastructure and servicing levels to meet the increasing demands of a growing population. The Provincial Government intervened in 1982 by introducing legislation that established an urban community and made the preparation of a development plan within a four year period mandatory. The "regional county municipality" of Montreal is a consolidation of the central zone and the outlying sectors of the community within the perimeter of urbanization. The purpose of the development plan is to improve the quality of life by fostering a more balanced urbanization through such means as a rational structuring of the territory. The two facets of the community (the central zone and the outlying sectors) are seen as being complementary by virtue of the expansion of one and the rehabilitation of the other.

The Halifax and Montreal examples differ in their policy approaches but exhibit similar characteristics in terms of the policy intent. What is referred to as a rational structuring of the territory relates, in a geographic sense, to the zone of urbanization relative to that locale.

A variation on the "annexation for control" or regional/metropolitan government reorganizational policy approach is the Additional Zone concept that Winnipeg has adopted. In 1961 an area of approximately five miles beyond the City's corporate limits was designated as the Additional Zone for purposes of regulating urban sprawl. The local authorities that were affected by this zone were divested of their planning authority within the zone and the responsibility for regulating development activity was delegated to "an enlightened Metro or Unicity Council" (Cherniak, 1985, p. 70). Local authorities do however, maintain a veto through the subdivision process.

The Manitoba Department of Municipal Affairs referred to the Additional Zone as a mechanism to regulate the haphazard semi-urban development which usually occurs on the fringes of large urban centres. Since its inception, the Additional Zone has undergone a series of amendments from a designation of no urban expansion for the entire zone to potential limited urban expansion and finally to limited urban expansion in selected areas. Due to its somewhat arbitrary boundaries at inception, that were not based on future urban growth corridors, an incremental chipping away of these fringe lands has occurred. The formal designation of a more intense land use in a portion of the Additional Zone has had the effect of raising the expectations of property owners and created a very significant speculative bubble. In addition, the delineation of a circumferential urban growth protection zone has, from a broader perspective, displaced the phenomena of urban sprawl to the edges of the Additional Zone.

The delineation of a fringe area accompanied by a series of development policies as the mechanism for regulating urban sprawl, appears for the most part to have displaced the sprawl to the area beyond the zone. In examining the Edmonton situation, this has had much the same effect as that Region's practice of prohibiting country residential subdivisions within a specified radius of different sized urban centres. The Winnipeg process of local authorities and the City sharing a mutual veto however, has delayed the adoption of comprehensive by-laws and district plans in many cases. In instances where a statutory plan has been adopted, a number of local authorities have used this as the basis for opting out of the Additional Zone. Recent discussions with the City of Winnipeg indicate that the majority of local authorities within the Zone including Rosser, McDonald, Richot and East and West St. Paul have or are in the process of being removed from the Additional Zone. This has undermined the Additional Zone concept to the point where a major reorganization of the entire metropolitan area into a variation of a regional planning district is under review.

The lessons from the Winnipeg experience regarding the proliferation of rural residential development into areas of potential urban expansion are revealing. A Manitoba Department of Municipal Affairs report suggests the subdivision of land in the absence of an overall plan can preclude further subdivision for residential uses. The difficulties presented by multiple ownership and the established pattern of land development are two of the more compelling reasons why the development industry will abandon these in favour of areas easier to assemble. This option, of course, is contingent on their being alternative areas for the development industry to direct their energies. For this to occur the Manitoba Government is advocating the preparation of comprehenisve plans that identify areas for rural residential development based on sound planning principles.

Our literature and survey research revealed some other approaches to the intermunicipal management of fringe lands. The City of Lethbridge for example, has adopted a joint general municipal plan with the County of Lethbridge for purposes of ensuring that development activity in the Joint Plan Area does not have a negative impact on the future growth and economic development of the City. The City of Brantford, on the other hand, elected to follow the annexation for control route. A large amount of land was annexed to the City in 1981 with the understanding that a 20 year moratorium on further annexations would apply. In addition, the City informed us that the adjoining rural municipality agreed to place a "green belt" roughly one mile in width on Township lands surrounding the City. Land use controls only permit agriculture and related uses in this area in an attempt to forestall the further occurrence of urban sprawl.

The annexation for control route was also the option chosen by the City of Edmonton in the early 1980's. However, securing options for the City's long term growth and outward expansion was seen as only part of the rationale for these annexation proceedings. The City argued that the adjoining urban and suburban growth corridors were all part of one large social and economic unit and, as such, should collectively share the revenue generators along with responsibility for the provision of government services. The matter of annexing for control of physical growth corridors was not the paramount issue due to the 5 mile "green belt" provisions of the Provincial Subdivision Regulations which effectively prohibited small parcel fragmentation. The Alberta Government agreed in part with the City's position by consenting to the annexation of a large tract of land. The adjoining urban communities of St. Albert and Sherwood Park, however, were not included in this annexation approval of 91,300 acres to Edmonton.

The annexation for control route with vast reserves of land for long-term growth has been found to have some serious drawbacks relative to the broader planning picture. In the Niagara Region of Ontario for example, the municipal units have been enlarged and provided with overbounded political boundaries. Some observers have noted that this had the net effect of encouraging expansion within the administrative units, rather than the pursuit of regional policies. The experiences of both the Niagara and Edmonton Regions is, from our investigation and observations, informative in this respect.

Earlier in the paper, mention was made of the analogous relationship between the Additional Zone concept in the Winnipeg situation and the five mile subdivision restrictions on country residential development as practiced in the Edmonton Region. The prohibition of small lot rural residential development within a set distance of the pre-1981 Edmonton boundaries has resulted in a 60 to 80 year inventory of unfettered and virtually unfragmented lands, beyond the built-up city, for outward expansion (assuming early 1980's growth rates). The Edmonton Region's application of the Alberta Planning Act Subdivision Regulations had the net result of protecting the City's long range growth options, whereas the inter-municipal arrangements that accompanied the Winnipeg Additional Zone did not afford this protection (i.e. mandatory compliance).

The matter of fragmentation and its implications for logical and orderly urban growth is, from our investigation, not an issue concerning the decision makers in Edmonton. Their land base is secured and their efforts are being directed more towards the fair and equitable provision of services within the City and between the adjacent urban communities. The only place where we did find evidence of it being a potential concern was in the "Hamlet" of Sherwood Park (population 30,000). The recently adopted General Municipal Plan for the Sherwood Park Urban Service Area prohibits land activity other than interim agricultural and non-permanent open space uses within the area delineated for urban expansion. The reasoning for this policy, as explained by the senior County Planners, is that the fragmentation of this growth corridor would preclude urban expansion in these areas. Furthermore, their experience suggests country residential development is an ultimate land use activity and not simply a transitional use from agricultural to urban landscape.

In the final analysis, our survey of Canadian municipalities indicates a wide variety of policy approaches available to assist in the protection of urban growth corridors. At the risk of oversimplifying the matter, it would appear that the broad choice of one policy or management instrument over another is a reflection of the respective provincial governments' priorities concerning the management of urban sprawl. Looking beyond the short and intermediate term growth requirements of an urban community, the choices seem to focus on either an inter-municipal arrangement of voluntary or forced co-operation, or the incorporation of long range land inventories under the auspices of one munici pal entity. As was stated at the outset of this section, the factors effecting the choice, and indeed long term consequences, will be a product of the local historic, geographic and political framework.

FINDINGS OF THE REVIEW IN SUMMARY

The following findings can be made as a result of the literature review and survey of Canadian municipalities.

- That sub-urban development and land fragmentation has a direct impact on how efficiently and effectively an urban municipality can grow. There are identifiable increased public costs associated with integrating these fragmented areas into an urban municipality.

- While various studies have identified dollar costs for certain items related to fragmented development patterns, not all dollar costs can be quantified. Studies have shown that many of the public costs of fragmentation are subsized and thus "hidden" in senior and local government programs and policies that are premised on the notion of the right of residents to a common level of accessibility and services no matter where the location. Other public costs are social value costs such as preservation of agricultural land, greenbelts, environmental quality, etc. As such, many of the public costs of fragmentation can not be easily measured in quantifiable form. They are, nevertheless, real and significant, especially with respect to the use of land in the urban fringe.

- Rural residential and similar forms of development should be viewed as end users of land and not an evolutionary step to urban density and form. Such developments do not convert to urban densities in a reasonable or predictable development time frame and in fact will contribute to higher costs to the developer, urban municipality and ultimately, the urban taxpayer.

- Rural residential developments should be provided in a metropolitan region to meet a market demand for an alternative to the urban lifestyle. Such developments must be sited in specified areas where they do not prejudice future urban expansion options.

- There are several types of policy tools available to control fragmentation in the urban fringe. All of these tools deal in some form with controlling land use and thus affecting the market value of land. Local circumstances and priorities are an important consideration in assessing those policies that would be socially and politically acceptable in a planning region.

APPENDICES

APPENDIX 1

A SUMMARY OF FRINGE ISSUES IDENTIFIED IN THE LITERATURE REVIEW

Land Use Activity Conflicts between agriculture, extractive mining, rural residential and other rural land uses and urban development. Unmanaged, these conflicts can lead to:

- loss of prime farm land
- loss of valuable extractive resources
- negative impact of development on economic viability of farming operations
- rising agricultural land prices as a result of land speculation and exploitation for short-term economic gains
- land speculation, fragmentation and high land values for urban uses
- ribbon development and sprawl along transportation corridors
- haphazard dispersion of rural residential developments

Public Service Costs

- under-utilization of existing infrastructure
- excessive costs of public services and facilities because of wide residential dispersion
- site-specific focus of planning may create prohibitive service costs when annexed by urban centre for urban residential purposes

Taxation Inefficiencies and Inequities

- subsidized public services to rural non- farm development by province and city residents and farming population
- non-resident commuters increase demands on city services without equitable payment for them
- property tax inequities
- increased expenditures by senior levels of government

Social and Environmental Issues

- problems with water supply and water pollution
- negative impacts on tourism potential of region
- loss of valuable recreational and open space land
- social conflicts created by conflicting life styles
- conflicts and tensions in rural areas as a result of changes in balance of politicial power from farm to non-farm residents
- impacts of commuter trips on quality of life in downtown districts

Land Policy and Planning Philosophy

- view of land as a commodity rather than a resource encourages promotion of individual rights of property over collective interests of society
- leads to the "collective phenomena" (Friedmann, 1973) resulting in unintended by-products of many individual decisions

APPENDIX 2

RESPONSE FROM M.D. OF ROCKY VIEW

At its meeting of June 3, 1987, the Calgary Regional Planning Commission's Co-ordinating and Research Committee passed a motion postponing further discussion on this study "...to enable Rocky View and any other municipality to prepare a letter outlining comments regarding the document".

The Director of Planning and Engineering for the M.D. of Rocky View provided comments at the request of Council, in a letter dated June 19, 1987. The contents of the letter were discussed by the Committee at their meeting held on July 15, 1987. At that meeting the following motion was passed:

> "MOVED BY R. McCALL, SECONDED BY J. SCHMAL, THAT:
>
> THE "IMPLICATIONS FOR FUTURE URBAN GROWTH OF LAND FRAGMENTATION IN URBAN FRINGE AREAS: A REVIEW OF RECENT EXPERIENCE", WITH THE ADDITION OF THE M.D. OF ROCKY VIEW'S RESPONSE, BE FORWARDED TO THE COMMISSION FOR INFORMATION.
>
> CARRIED."

In accordance with the wishes of the Co-ordinating and Research Committee the M.D. of Rocky View's response has been included as an appendix to this report.

MUNICIPAL DISTRICT OF ROCKY VIEW NO.44
TELEPHONE 230-1401
P.O. BOX 3009 CALGARY, ALBERTA T2M 4L6
911 - 32nd AVENUE N.E

REPLIES TO
DEPARTMENT OF
PLANNING & ENGINEERING

OUR FILE NO. 603
YOUR FILE NO. ______
PLEASE QUOTE OUR FILE NO.

RECEIVED
JUN 23 1987

June 19, 1987

I.R.

Mr. Ivan Robinson
Director
Calgary Regional Planning Commission
4303 - 11th Street SE
Calgary, Alberta
T2G 4X1

Dear Mr. Robinson:

Re: Fragmentation Study

Further to our meeting of May 14, 1987, the following confirms some general observations regarding the form and content of the original Commission Fragmentation Study which was released in April 1987. Members of Council have reviewed the document and are concerned about it, as you are aware. Although a number of changes have been made to the document since, they are minor in nature and do not address the substance of our concerns.

It is my understanding that this document was produced with a positive intent, and that much staff time and expense was incurred to develop it. While we also appreciate that some original data was gathered and bibliographic searches were undertaken, we remain less than convinced regarding the observations and conclusions which are drawn from this information. This is particularly the case with respect to the survey which was meant to fill an apparent large gap in the literature, and plays a large role in many respects in the observations and conclusions. Moreover, we consider that there are conclusions drawn from several sources and materials we consider to be incomplete at best, and therefore may create unsubstantiated impressions and lead to questionable decision-making. Clearly this would not be in the best interests of the region, and as a participating Member, we consider it a duty and responsibility to air these alternative viewpoints. We hope they will be taken in the constructive spirit intended.

As indicated at the Co-ordinating and Research Committee meeting of April 22, 1987, the timing of the release of this document was, in our judgment, particularly untimely given the ongoing inter-municipal discussions with the City of Calgary. As Councillor Feltham had suggested at the April 22nd meeting, reference to this document has already been made by the City of Calgary during the course of these discussions.

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Moreover, while we appreciate that the report proposes to present the urban perspective and draws upon academic and other urban-generated works which support that perspective, it is our view that such works and hence perspectives may be quite narrow and self-serving. The impression one is generally left with during and after reading the report is not one which clearly identifies the report as carrying this urban emphasis, but rather that it is a comprehensive review of all perspectives examining the urban fringe question. Hence the overall impression that the report is unbalanced in that it does not deal with the issue from a rural as well as an urban perspective.

From my personal studies which include a review of the literature, it is clear that there are many dynamic factors at work in the fringe which are clearly inter-related and that there are rural as well as urban implications from both a positive and negative viewpoint. Perhaps, having been armed with this background, it was my expectation that the report dealt with this balance of issues and opportunities.

The report tends to concentrate however on negative factors, although land fragmentation can have certain positive effects which may not be readily apparent nor clearly enunciated. For example, the concentration of land ownership in a few hands can create monopolies which can be counter-productive and ultimately expensive when development to urban standards occurs. A multiplicity of ownerships can bring forward a variety of opportunities for a large number of participants in the development process which can lead to eventual savings to urban dwellers and others through competition.

One of the very distinct impressions one gets when reading the report is that rural lands are there only as a land bank for cities. Statements such as (page 3) "approaches used for the preservation of land for future urban expansion", and (page 29) "there are several types of policy tools available to control fragmentation in the urban fringe. All of these tools deal in some form with controlling land use and thus affecting the market value of land" serve to reinforce this impression. There does not seem to be a recognition that rural lands are not under urban jurisdiction and rural landowners have rights, responsibilities, and aspirations for their lands too. These aspirations and rights must be addressed by local rural municipalities and informed rural elected officials who will weigh them against the broader "public good" including their impact or lack thereof on urban centres.

On page 2 of the report at the bottom of the page, it cites a noticeable absence of current information and, at the top of page 3 it notes that a questionnaire survey of 39 urban municipalities across Canada was undertaken in order to address the information gap. It suggests that "the main purpose of the survey was to gather opinions and experiences and uncover any relevant

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municipal studies on the topic ... ". It is clear from a review of the study survey that 7 of the 8 questions asked are either factual or yes or no questions without any opportunity to offer opinion or expand upon local experience. Only under question 8 where it suggests "any additional comments?" is there any related opportunity to offer opinions, elaborate on local experiences, or to suggest any relevant municipal study from that urban center which might be useful to the authors of the report. Only question 4a deals with the relative size of land parcels and then only in terms of the percentage of land which is subdivided into parcels of 20 acres or less in size. The question does not request information as to the impact, if any, on the urban municipality's ability to expand as a result of the 20 acre parcels, and this is the central trend of the study. The remainder of the questions in the questionnaire largely deal with land uses, phasing, and servicing.

It is difficult therefore to understand how the questionnaire might assist in answering the two central questions of the study as identified in sentence 2 of this paragraph as quoted from the study.

One noticeable contradiction appears on pages 2 and 4. At the bottom of page 2, it states "it was discovered that there was a noticeable absence of current information on the planning practices and experiences of individual Canadian municipalities" However, on page 4 at the top of the page it states "there is an abundance of literature, research and interest across the country on the issue of land use in the rural urban fringe of cities. The planning issues and experiences are well documented ... ". The report suggests that there seems to be a lack of information on the one hand, therefore a survey was conducted. However, on the other hand there seems to be an abundance of material available.

Also on page 4, it is questionable as to whether or not urban fringe issues are "the single most critical issue in regional planning". While this might be perceived by the authors to be the case in the Calgary situation, in many other regional planning commissions across the province it is not, and these are regions characterized by mixtures of urban and rural jurisdictions as well. Indeed, my personal experience in Alberta and in other provinces where I have worked in several regional planning contexts does not support this conclusion. Duplication of bureaucracy and approval functions; transportation modes and linkages; water, sewer, and waste management systems on a regional scale; policing; emergency services; regional recreation facilities and opportunities; and political jurisdictions are much greater issues. Indeed I have a strong feeling that City of Calgary Councillors would have the same conclusions. It is natural however, that planners from a Commission which is actively involved in fringe activity would feel this way.

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On page 5 at the bottom of the first paragraph, it states "Another factor that may contribute to this dispersed settlement trend in the fringe is the speculative attraction of the land for profit". The question arises as to the source of this conclusion whether from the authors or the literature, but more importantly it should be noted that all land has a speculative attraction and particularly in the urban areas. The current example of skyrocketing land prices in the City of Toronto fed largely by speculators (according to news reports) and the earlier similar speculative excesses in the City of Calgary in the late 1970's are examples. Somehow however, one gets the impression from the study and the statement that in the rural area speculation for profit is a "dirty" phrase, but in the urban area it's okay.

In earlier discussion it was noted that there were several references in the report for the need to have an overall strong regional land use strategy to control land fragmentation. There was a concern expressed that continued references throughout the report in this regard may have represented a desire to return to a more "control oriented" regional plan. The references appear on page 6, paragraph 2, last sentence "these three functions, if not managed through an overall regional land use strategy can create land use conflicts and problems". Page 17, last paragraph "Strong regional planning was often advocated in the literature to resolve the conflicting land use issues and problems in the fringe. Such an approach would include an overall settlement strategy for the region". Page 18, paragraph 1, "Schwartz studied ... and concluded that the program requires a well-drawn land use plan and firm adherence to that plan to be successful." Page 25, paragraph 2 " ... the subdivision of land in the absence of an overall plan can preclude further subdivision for residential uses", and further "The Manitoba government is advocating the preparation of comprehensive plans that identify areas for rural residential development based on sound planning principles".

These quotations seem to indicate that somehow rural municipalities are incapable of comprehensive planning and that some higher level of authority should be involved such as a regional plan which would take the lead role in this area rather than a local jurisdiction. Clearly this would be a retrogressive step.

On page 9 the middle paragraph suggests that "studies were not able to identify actual costs" although definite conclusions were reached. It further states that although "actual costs are not measurable", the "costs associated with land fragmentation are nevertheless real and significant". These statements beg the question as to how such a conclusion that the costs are "real and significant" could be reached if in fact the studies were unable to identify actual costs. This then calls into question a number of other conclusions

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which are reached in the report, given that the report frequently acknowledges that information is either incomplete or unavailable. This would appear to be the case on page 14, item 7 dealing with the administrative costs of Special Unit Areas. It would appear from personal experience that the situation with the City of Calgary expanding water services to the rural areas is not as straightforward as it appears in the report. Neither are there expectations that any area be treated in a special manner with special services and, even if they were, in the age of computers, it is difficult to envisage significant increases in costs of administration as described. Similarly in Section 8 on page 14, the last sentence talks about price escalation, leapfrogging, and farmers facing increased assessment and uncertainty. Such sweeping, vague, "motherhood" generalizations such as are made in Sections 7 and 8 on page 14 are virtually without substance and credibility.

On page 22, the middle paragraph talks about valuable lessons to be learned from other metro areas. However, the "lessons" are not identified, nor are the "inefficiences" which are referred to in the second sentence of the paragraph. The author talks about the "context of criticisms" regarding metropolitan systems and suggests that the forces responsible are equally prominent in the Calgary region. However it is largely unclear as to what these forces are and what makes them prominent or significant in the Calgary context and what the implications might be if they are not addressed.

In addition, to suggest that "the single most important factor influencing inter-governmental relations at the municipal level is the quest for a larger and more diversified tax base" represents an uninformed view of the circumstances and the process. Lifestyle and the right to allow neighbours to utilize land in a similar manner, the maintenance of local jurisdiction and decision-making are other very important considerations. It must be remembered that rural councillors have very close contact with the citizens they represent and hence have a strong sense of, and involvement in, the issues, particularly where these relate to the urban/rural interface. Urban representatives tend to be deeply involved with predominantly urban issues, especially since many ridings are surrounded by other urban ridings. Hence they and certain of their staff may have a more detached feeling for rural (fringe) issues and approach them from a more impersonal level. This observation has been repeatedly put forward by City of Calgary senior level planners during a series of ongoing interactions with the M.D.

Moreover, to suggest that the M.D. only allows development so that it can pursue residential tax assessment and that this pursuit will have the effect of precluding urban residential tax assessment in the long run, is also, we would suggest, an unfounded and inaccurate observation. Indeed, the last paragraph on page 22 can be interpreted as representing an unwarranted and undesirable intrusion into the sensitive area of inter-municipal discussions which are currently ongoing.

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On page 26, paragraph 2, the second last sentence indicates that the Alberta government agreed in part with the City of Edmonton's position that it should annex large tracts of land for control in order to protect its long term development options. This conclusion is not supported by the facts which are that the City of Edmonton's annexation proposal was substantially reduced by the Province. Indeed a large area of land northeast of the City of Edmonton was added by Cabinet for unexplained reasons, which land was not part of the City's original proposal. As a participant in the process I know that, and it is part of the public record, that the Province was not and is not in favour of annexation of large land areas for control, but rather annexation for demonstrated need. Moreoever, the Province did not agree that lands surrounding Edmonton were all part of one large social and economic unit, but rather that every community in the area had, and had a right to maintain its own separate character and identity, and be permitted to conduct its own affairs under a policy oriented, broadly based regional plan. To reinforce this concept, the Province required that Edmonton city amenities be shared by the formation of a regional utilities commission to allow for the proper expansion of nearby communities.

On page 27, the last paragraph, second last statement suggests that urban growth requirements will be provided through either voluntary or forced co-operation or an annexation for control. It is difficult to conceive of municipalities being "forced" to co-operate such that the hopes and aspirations of a particular segment of society may be superceded by a larger insensitive majority. I do not agree with this perspective, and would suggest that such inferences are counter-productive.

One of the benchmarks of works of this nature are the impressions one gets after reading same, and certainly first impressions are difficult to change. Perhaps this can be attributed to the fact that most people will not read this material two or three times to confirm their initial feelings. Having done this several times myself however, I am still left with uncomfortable feelings of having read a document that is somehow superficial and incomplete, and has drawn certain questionable conclusions from an admittedly narrow bibliography, a structured survey, and interviews with urban personnel carrying a particular urban bias.

There are several other parts of the report which raise additional questions with respect to source of data and/or conclusions/observations made. However, in the interests of brevity we have chosen not to address these. Nor have we elected to challenge in detail the report's Bibliography, although we note that only 23 of 63 references relate to "pure" academic research, while others relate to "summary notes" from personal interviews with selected City of

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Calgary and Ontario Planners and others; sundry General Municipal Plans and Land Use Bylaws; and various discussion papers. We are of the view therefore that the Bibliography is unlikely to be considered as authoritative in nature, and, when combined with a questionable survey, tends to cast doubt on the validity of the report and its conclusions as a whole.

While the authors have drawn together data under apparently difficult circumstances, and, the critique offered above is not in any way meant to be of a personal nature, one still feels compelled to question the overall scope and legitimacy of the study observations and conclusions, since we are concerned about the long-lasting impressions this document may leave. We also present these concepts with a view to being constructive in the process of finalizing and laying this report to rest.

I hope that these observations assist in clarifying the concerns which have been expressed regarding this study, and it is hoped that they will assist in understanding the alternative viewpoint we have presented.

Thank you for the opportunity to comment on this report.

Yours truly,

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Director of Planning and Engineering

/rr

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FRAGMENTATION STUDY
TECHNICAL APPENDIX

VOLUME II: BACKGROUND WORKING PAPERS:
LITERATURE REVIEW
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Urban Planning Division
Calgary Regional Planning Commission
January 12, 1987

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FOREWORD

This background document contains summaries of all readings we found pertaining to "sprawl" development in the fringe of an urban municipality. These are intended to be summary notes only and the reader is encouraged to consult the original reference material for further information. We have organized the readings into the following topic areas:

- general readings on theory and issues with respect to sprawl/fragmentation
- general studies on costs/benefits of sprawl
- studies on policy alternatives
- case studies and experiences of various municipalities

The readings were selected from extensive bibliographic lists provided by ICURR, Nomads Data Base, CODOC Data Base, Geo Abstracts Annual Index, Current Geographical Publications Annual Index, the City of Calgary, Alberta Municipal Affairs and our own Library. As well, we reviewed masters theises on microfiche from the National Library of Canada and annual listings from the University of Calgary and University of Alberta. Basically, we used subject access and key word access in order to select relevant literature. A special thanks to Myrna, our librarian, for her valuable assistance in finding, acquiring and returning all the materials.

In addition to the literature review, we undertook a survey of the opinions and experiences of municipalities in Canada and in the Province of Alberta in particular. The last section of this document contains summaries of the questionnaire survey results and memorandums of the various interviews held.

Please note:

- We did not review many historical (pre-1960) readings, except for the McNally Report, as most of the experiences and findings of these studies were summarized in more recent reports. We attempted to select the most recent findings on the topic.

- A substantial amount of the most recent literature addresses the issue of sprawl and urban-type development in rural areas outside urban growth corridors. These studies address the problems encountered with respect to preserving agriculture lands, and the farming community. We did not review or summarize these findings as we were only examining the evidence in urban growth corridors. However, it is worth noting that substantial and recent work has been done on the problems of sprawl and non-farming residential growth in rural areas.

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1.0 THEORETICAL OVERVIEW

Deborah M. Lyon. The Development of the Urban-Rural Fringe. A literature review. 1983. (Institute of Urban Studies).

1. Clear definition of an urban fringe required so that we are referring to a similar issue (i.e. future urban land supply) and not an area of impact (exurbanite settlement in rural areas).

   Issues:

   ° loss and fragmentation of prime farm land
   ° impact of development on the economic viability of farming operations in fringe areas
   ° rising rural land prices
   ° property tax inequities
   ° public servicing of scattered development
   ° land-use conflicts
   ° socio-political tensions between 'new' and 'old' residents of rural areas
   ° disruption of the environment

2. History - rapid pace of development in the 1960's and 1970's and the patterns of exurbanite settlement, resulting in:

   ° new level of affluence
   ° accessibility due to improved communications and transportation technologies
   ° socio-cultural factors (back to the land/improved quality of life)

3. Key Questions with respect to cost/benefits with this fringe development

   (1) Were the developments, spurred by the short-term interests of individual actors, rapidly foreclosing options for future uses of the land -- uses that may be in the long-term public interest?

   (2) Should development at the fringe be better controlled and, if so, how?

(3) What impact would the existing patterns of settlement have on future ability to plan fringe development? What flexibilty, in terms of future planning options, had been foregone?

(4) What are effects of today's higher energy and mortgage costs?

(5) Impact of new computer-telecommunications technologies on settlement.

4. Central Controversy

° Will developments in the 1980's lead to more concentrated settlement forms or continued dispersal of populations.

Definition: P. 8 fits Russwurm (1977, 1980) "inner fringe"

- our's differs in that it is a precisely defined area (p. 9)
- Winnipeg Additional Zone (1961) to give Winnipeg planning control over an area extending 8 km from the city's boundaries - to prevent urban sprawl and provide open space - zone an area of no urban expansion (now it allows rural residential in a specified portion).

(1) Impacts on:

° economic system
° socio-cultural system (demand a result of changing lifestyles, search for improved quality of life, increased interest in environmental quality, demand for more recreational opportunities and conservationists involvement).

(2) Conflicts created:

° competing interests between groups as a result of development pressures
° political conflicts at local government level - zero-sum competition, since one area's gain is another's loss.

PATTERNS OF SETTLEMENT - Factors behind Urban Fringe Development (C.R., hobby farms, etc.)

Geographic

- random and scattered, often along major transportation routes and high amenity areas

Demographic

- stabilization or decline of urban population growth
- migration turnaround - ruralization
- age profile of the population - proportion of older persons increasing and what impacts this will have on settlement patterns
  - dispersal for rural lifestyle
  - concentrate to settlements
  - return to the extended family
- changes in household structures - smaller family sizes, increased single person and single parent households, childless couples, age of family formation, families with two workers, etc.
- rural demographics - declines in rural farm population (health, age, divorce, changing family situation)

Russwurm (1980, p. 469) projects re: country residential:

> "Given these three factors of a demand threshold, an increased supply and a declining growth rate, it can be anticipated that only limited additional demand will occur for more c.r. development during the 1980's." p. 18.

Economic Factors

- attraction of land in the fringe
  - proximity to markets and services in the city
  - lower costs relative to urban centre (land prices and annual taxes). Randall, 1981.
  - competitive activity over land due to speculative profits from appreciation in land values

- pressures to subdivide land will continue - "motivated by the desire to obtain improved community services which are only feasible with larger population (Smit and Flaherty, 1980), or by the need to overcome cash-flow problems being experienced by individual farmers or non-farm residents." p. 23.

4. Land Values and Property Taxes (increased assessment/mill rates)

5. Effects of Low Density Residential Development

° effects of agricultural operations and residents' demands for restrictions on farm practices
° urbanites bid up the price of land
° potential environmental disruptions
° provision of expanded public services (schools, roads, road maintenance, snow clearing, police and fire protection, garbage disposal) to accommodate new development
° inequities between those who pay for the additional services and those who benefit

6. Impact on Rural and Urban Economies

Urban:

° "out migration erodes a city's tax base; commuters become 'net absorbers' of city services because they utilize the service infrastructure without providing tax payments in return; as well, decentralization of growth can lead to the need for new or additional infrastructure while at the same time, leaving some of the existing infrastructure under utilized (Winnipeg Tri-level Committee on Urban Affairs, 1978a, 1978b)". p. 38.

7. Socio-Cultural Impact of Fringe Development

Rural:

° conflicts between exurbanites and longer-established residents of rural communities

POLICY RESPONSES TO FRINGE DEVELOPMENT

The following ten pages are extracted from the Lyon's report. They describe the various policy responses taken by municipalities to address the issue of urban-rural fringe development.

Socio-Economic

- value of quality of life in rural locations
- value of individual rights - especially property rights

  Counter values
  - preserve rural environment - stricter controls
  - conserve natural resources
  - gentrification movement - refurbish older homes in central city.

Technology

- roads, automobile, telephone, computers, etc.

Public Policy

(1) hidden subsidies p. 27
(2) explicit policy decisions
(3) competition among local governments
(4) unanticipated consequences of public policy (i.e. is sprawl only displaced to outside UFP boundary)
(5) integrated planning needed.

IMPACT OF FRINGE DEVELOPMENT

- dominant theme is the impact on the agricultural sector

- essential problem is better land use management

1. Natural environment has not been used wisely
    - high capability land for wildlife, agriculture, etc.
    - cultural/historic sites
    - shorelines, scenic places, etc.
    - pollution or ecological damage

2. Loss and Fragmentation of Agricultural Land, p. 32.

3. Effects on the viability of Farm Operations, p. 33.

5.0 POLICY RESPONSES TO FRINGE DEVELOPMENT

Recognition of the undesirable consequences of urban-rural fringe development has prompted a variety of policy responses. In recent years, these have focussed on: (1) efforts to protect agricultural land and the viability of farm operations; (2) attempts to engage in more comprehensive land-use planning; (3) a search for the most appropriate geo-political and administrative structures to implement more coherent planning policies; and (4) acknowledgement of rural residential development as a legitimate land use but, given the problems that such development can entail, also proposals and plans to control more carefully the pattern of such settlement and, if possible, to direct it to existing centres or more concentrated forms of settlement (Barber and Hathout, 1977; Berry and Plaut, 1978; Furuseth and Pierce, 1982; Gertler and Crowley, 1977; Manitoba Provincial Land Use Committee of Cabinet, 1980; Palubeskie, 1979a, 1979c; Russwurm, 1977, 1980; Selkirk and District Planning Area Board, 1981).

Nevertheless, the efficacy of such policy thrusts, or of their implementation, has been questioned. For example, previous and sometimes contrary provincial and municipal policies may lead to settlement patterns that thwart subsequent planning efforts, as Palubeskie (1979c) found in Springfield. (In this case a large number of vacant but complying building lots in the municipality made any effort at containment of development an elusive one, at least in the short term.) Moreover, attempts at containment or more clustered settlement in one jurisdiction may only encourage leap-frog development in areas where such controls are absent; or they may create more pressures on the countryside for recreational purposes (Barber and Hathout, 1977; Bryant and Russwurm, 1979). In the case of the agricultural sector, policies to deal with problems related to fringe development cannot be divorced from those aimed at the general viability of the industry.

> The agricultural industry must be viable in terms of satisfactory returns on capital investment and labor. Agricultural land use problems associated with urbanization pressures represent income

> problems; whenever farmers can earn enough to approximate urban incomes, agriculture will stand a better chance of prosperity whether near cities or elsewhere. (Bryant and Russwurm, 1979, p. 133)

Moreover, there are the persistent problems associated with the inherent conflict between individual property rights and planning controls:

> We have sufficient legislation on the books in most provinces to control land space resource activities in the urban fringe to almost any degree desired. We have basically not chosen to do so because of two factors related to land viewed primarily as a commodity rather than a resource. One is the attitude that private land ownership carries with it the right to develop that land. The other is that individual owners should be compensated should this right to develop be denied....Problems connected with land ownership and land use lie at the heart of all problems involved in wisely using the potential inherent in our urban fringe land. Land speculation, land use conflicts, environmental impacts, agricultural impacts are clearly linked with our closely guarded rights to land as private property. (Russwurm, 1977, p. 97).

5.1 Traditional Policies

Zoning, subdivision controls and annexation/amalgamation are among the traditional instruments applied to development at the urban-rural fringe.

Annexation can be a particularly controversial action, as demonstrated in recent years in Alberta where both Calgary and Edmonton have annexed considerable portions of land from surrounding municipalities (Plunkett and Lightbody, 1982; Thompson, 1981). In Manitoba, territory was annexed by Brandon in the early 1970's and the City of Winnipeg contemplated extension of its boundaries in the late 1970's (Everitt and Stadel, 1981; Moses, 1979). However, such a policy response to problems at the urban-rural fringe has been criticized as only a temporary solution that deals with the symptoms of problems, not their causes (Everitt and Stadel, 1981; Russwurm, 1977). Moreover, additional negative consequences may arise -- land may be left idle prior to development or it may be left vacant because it is not suitable for development; annexation does not guarantee growth will occur in an accretionary, planned manner; and annexation does not encourage efficient use of the vacant land within the former urban boundaries (Thompson, 1981).

Zoning and subdivision controls also can be a source of political conflict (Proudfoot, 1981; Smit and Flaherty, 1980). Their effectiveness can also be limited. In terms of conflicts, Everitt and Stadel (1981) show, for example, how zoning by one municipality was used to try to contradict the purposes of Brandon's annexation. Moreover, the pressures for rezoning (e.g., from those who wish to capture the values of increasing land prices) may be intense on local authorities (Chicoine, 1981). In addition, even though subdivision controls have been substantially tightened in Manitoba, Alberta and other provinces in recent years, some authors argue that the effectiveness of these actions remains questionable (Prevost, 1982; Thompson, 1981). Brown, et al. (1981) assert that regional subdivision controls extending far beyond the built-up perimeter are necessary to maintain large land parcels for agriculture. But such controls may only facilitate the banking of tracts of land by corporate interests since individual purchasers may be priced out of the market. As well, farmers experiencing a cash-flow shortage may be forced to sell their entire holdings if they are unable to subdivide a portion to improve their liquidity situation.

Large-lot zoning has been used in Manitoba and other provinces to try to control rural residential development, maintain the rural character of fringe areas, ensure that the residences have self-contained water and sewage facilities, and to obtain a higher assessment/tax return from these properties. It has been argued that these policies have served to encourage rather than discourage, rural residential settlement, and that they have provided the impetus for future subdivision pressures from the owners (Barber and Hathout, 1977; Smit and Flaherty,1980).

2 Taxation Policies

Preferential tax treatment is one of the most common tools used in the U.S. and Canada to try to encourage the retention of land in agriculture. Most programs involve a form of differential or use value tax in which special classes of property are taxed at the current (use) value rather than at the higher ad valorem value. Many schemes have a recapture component to them whereby a rollback tax must be paid on conversion of the land to urban uses (Berry and Plaut, 1978; Brown, et al., 1981; Furuseth and Pierce, 1982). Some programs utilize restrictive agreements under which farmers are committed to keep their land in agriculture for a specific period. Another variation, used in Wisconsin and Michigan, scales the annual tax reduction according to income and property tax burden (Brown, et al., 1981; Furuseth and Pierce, 1982).

Manitoba does not have a preferential system. However, one has been recommended by the Manitoba Assessment Review Committee (1982) that would include provision for a five-year rollback tax on conversion of the land. Further, to deter premature requests for rezoning, the committee proposes a similar deferred tax scheme for agricultural land zoned for other uses.

Assessments of preferential schemes indicate that their impact is limited in that, by themselves, the offer insufficient inducement to keep land in agriculture if there are strong 'bid rents' for urban development. In addition, these schemes often benefit speculators or developers who own fringe land but rent it to farmers for agricultural use pending development (Berry and Plaut, 1978; Brown, et al., 1981; Furuseth and Pierce, 1982).

A second type of tax exemption offered by several provinces and states is a waiver of special assessments so that certain types of agricultural land are not taxed for the cost of urban infrastructural facilities (Furuseth and Pierce, 1982).

Land speculation taxes designed to capture some of the capital gains resulting fromn the short-term holding and sale of land are used in Ontario and some other jurisdictions. However, as Brown, et al. (1981) found, this type of tax does not affect most holders of fringe land, including those holding land for speculative purposes, since most investment activity is of a relatively long-term nature. Nearly 60% of the parcels included in their survey had been held by the same owner for 10 years or more. In addition, they argue that eliminating speculative activity may have minimal impact on fringe land prices since the main component of price increases is the greater value of the land in urban rather than rural use.

Land value or site value taxes, hoarding charges, and betterment taxes (designed to recoup some of the gains accruing from rezoning or other forms of community action), are among the proposals that have been made in an effort to arrive at fiscal inducements that will lead to better land use (Bird and Slack, 1981; Martin, 1974; Russwurm, 1980).

5.3 Agricultural Zones and Districts

British Columbia, Quebec and Newfoundland, plus a number of American states, have adopted some form of exclusive agricultural zoning in order to protect farm land from conversion to other uses (Berry and Plaut, 1978; Bray, 1980; Furuseth and Pierce, 1982; Maguire, 1979; Pierce, 1981).

B.C., with its narrow, fertile intermontane valleys under intense pressure for non-farm uses, introduced an agricultural land reserves (ALR) program in the early 1970's (along with a corollary farm income assurance program to provide income protection for farmers operating under an ALR plan).[1] Analysis of the program has indicated that it brought about a major shift in the location of new residential and commercial development, and that improved farmer confidence led to increased investment, farm expansion and new farm formation. In an analysis of the impact of the system on the Vernon area, however, Maguire (1979) concludes that ALRs by themselves are inadequate to resist intense pressures for urban development in agricultural zones. Bray (1980) notes that the program has not ensured that land is actually used for agricultural production. Indeed, some land has been left idle because the returns from farming were insignificant in relation to the costs of the capital investment in land purchased at prices reflecting its value under urban subdivision. Pierce (1981) concludes a study of the applications for exclusion of land from ALRs with a warning that continued incremental decision-making by the B.C. Agricultural Land Commission could threaten the objectives of the ALR program. While exclusions granted up to 1978 had not yet posed a threat to the reserve, the rate of approvals, and the disproportionate number of applications received from certain key areas of the province could lead to problems, Pierce argues.

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[1] This section was written prior to the B.C. restraint program introduced in July 1983.

5.4 Regional, Provincial and National Land-Use Planning

Several authors conclude their analyses of the dynamics of development at the urban-rural fringe with a call for more comprehensive and integrated settlement and land-use planning at the federal, provincial, regional and local government levels (Gertler and Crowley, 1977; Jackson, 1981; Robinson, 1981; Russwurm, 1980; Smit, 1981). Their essential argument is that a systems approach is necessary to ensure that future development is compatible with long-term human and environmental requirements. Priority should be placed on: (1) more detailed assessment of the Canadian land base than is currently available; (2) the establishment of much stronger public controls over the pace, location and nature of settlement and other development activities; and (3) development of the appropriate institutional structures required for the implementation of coherent land-use and development plans. For models to guide the reform process, these authors frequently point to the kinds of planning and programming implemented by the public sector in Great Britain, France, Sweden and other countries in Western Europe.

It has been noted that a number of Canadian provinces have redefined their rights to land-use controls in municipalities and unincorporated areas -- retrieving some of the powers that they had previously delegated to local authorities (Furuseth and Pierce, 1982). The establishment of land use commissions in B.C., Quebec and Newfoundland, the adoption of new planning legislation and land-use policies in several provinces, and the regional planning models offered by Ontario and Alberta, are identified as positive developments in land management.

Nevertheless, Russwurm (1980) argues, a key gap in Canadian institutional structures is the lack of unitary planning and single legal units encompassing both the urban fringe and the built-up city. Cities, he notes, must be dealt with and planned as regions, and these city regions must be part of more general provincial plans.

On the other hand, some writers warn that establishment of a supra-organizational structure is no panacea. Thompson (1981), for example, offers a critique of the regional planning commissions in Alberta while Gayler (1982a, 1982b) discusses the problems that can arise from inter-municipal rivalry under the regional municipality system in Ontario.

5.5 Other Policy Responses

A variety of proposals have been made, and programs implemented, to effect land-use policy objectives. For example, the purchase by public sector agencies of the development rights associated with land has occurred in some states in the U.S. (Berry and Plaut, 1978; Furuseth and Pierce, 1982). By separating these rights from the property, the government has left the landowner free to continue agricultural practices or other land uses that would otherwise not be competitive under urbanization pressures. Saskatchewan's agricultural land banking program, and Saskatoon's urban land bank, also are frequently cited as important innovations (Berry and Plaut, 1978; Furuseth and Pierce, 1982; Martin, 1974). But, to be effective, both land banks and purchases of development rights require large amounts of capital to cover sufficiently large agricultural resources (Furuseth and Pierce, 1982).

Two French programs have attracted attention : (1) legislation to encourage non-farm ownership of agricultural land in order to reduce the need for farmers to commit large sums of capital to land purchases (Bryant and Russwurm, 1979); and (2) a pre-emption of farm sales program to permit local intervention in a private market sale to ensure that the land continues to be used for agricultural purposes (Berry and Plaut, 1978).

The concept of transferable development rights has received considerable theoretical attention but has proven very difficult to put into practice (Berry and Plaut, 1978; Randall, 1981; Raymond, 1981). Nonetheless, researchers continue to examine its potential for implementation. This is because of its attractiveness as a means of accommodating development pressures while, at the same time, providing for preservation of designated natural or built environments and reducing the inequities between landowners prevented from converting their land and those who gain from more intensive development of their holdings.

6.0 DEVELOPMENT IN THE WINNIPEG REGION

As indicated earlier in this paper, the efficacy of the Additional Zone concept, which extends the planning jurisdiction of the City of Winnipeg into adjacent municipalities, has come under question.

First, it has been argued that the concept is "a compromise that satisfies nobody" (Selwood, et al., 1981). On the other hand, however, the city's control over development has been limited to the zone while exurban settlement has jumped beyond the zone's outer boundaries. Moreover, under the City of Winnipeg Act and a 1974 provincial government interpretation of that legislation, the city's planning responsibilities over the zone have been diffused to provide for more control by the municipal councils over zoning amendments, subdivision approvals and district plans (Palubeskie, 1977; Winnipeg Department of Environmental Planning, 1982). The zone muncipalities feel, however, they are still not masters in their own house; at least some of them have sought planning autonomy as a result (Palubeskie, 1979c; Selwood, et al., 1981; Winnipeg Department of Environmental Planning, 1982).

Secondly, there has been no comprehensive review of the Additional Zone components of the Greater Winnipeg Development Plan and By-law 422/73 (Winnipeg Department of Environmental Planning, 1982). The Minister for Urban Affairs, in an October 27, 1982 letter to Mayor William Norrie, called on the city to undertake a comprehensive review of the matters affecting the municipalities in the Additional Zone, in consultation with all interested parties (Winnipeg, Minutes of the City of Winnipeg Council, November 17, 1982).

Thirdly, the relevant provisions of the Provincial Planning Act, as these relate to the city's jurisdiction in the Additional Zone and to the development of plans by adjacent municipalities/planning districts, have been the subject of ongoing concern since their passage in 1975. Two main problems have been raised: (1) the city is excluded from the district planning process and thus has no formal input, except appearance at public hearings, into the planning decisions that may occur in adjacent municipalities; and (2) Additional Zone municipalities which join planning districts can opt out of the zone, as occurred with Rosser in 1980 (Selwood, et al., 1981).

> Unfortunately, its (the Planning Act's) implementation in the Winnipeg fringe has backfired. Rather than bringing about positive and co-ordinated approaches to development, its effect so far has been to generate new conflicts and intensify old ones.
>
> Four areas of concern....have been identified. First, there is a lack of systems perspective in the Planning Act as it applies to the Winnipeg region; second, the province's commitment to co-ordinated planning has been ambivalent, particularly with regard to financing; third, a dichotomy exists between a real decentralization of planning authority and empty rhetoric concerning local autonomy; and fourth, delays and conflicts have resulted from differing interpretations of the PLUC (Provincial Land Use Committee) guidelines. (Selwood, et al., 1981, p. 406-407).

Fourthly, questions have been raised about the effectiveness of the liaison between the city and the Additional Zone municipalities; about the role of the Ad Hoc Committee on the Additional Zone (which takes its mandate from the Committee on Environment); and about the appropriateness of a broader regional planning mechanism/authority for the Winnipeg region (Palubeskie, 1977).

7.0 CONCLUDING REMARKS

As indicated in the previous sections of this paper, the dynamics behind development at the urban-rural fringe are composed of multiple, often contradictory 'pushes' and 'pulls'. The outcome of this tug-of-war for a given locality at a given time is difficult to predict. After several years of rapid expansion, there are indications that development along Winnipeg's fringe has slowed considerably. Moreover, with Plan Winnipeg, the city intends to redirect at least a portion of its future development inward rather than outward. Do these factors mean that the fringe is a 'dead issue'?

Speaking in general rather than Winnipeg-specific terms, at least two analysts suggest that the answer to that question is no. Robinson (1981) argues that the present circumstances of slower economic and population growth in Canada offer opportunities to redress some of the difficulties arising from past periods of rapid growth and to undertake new initiatives. In his assessment of planning problems in the Niagara region, Gayler (1982b) argues that the changing circumstances provide an opportunity to plan for more compact urban areas and to protect farm land.

Thus, the current environment may provide a useful 'window' to reassess urban-rural fringe development, a window that would be difficult to create in the midst of another round of rapid growth in fringe areas.

- End of Extract: Lyon

Lorne H. Russwurm, The Urban Fringe in Canada: Problems, Research, Needs, Policy Implications. University of Waterloo, Waterloo, 1973.

° Focus of this research-oriented essay was to give an overview of the present problems with urban fringe landscapes in major Canadian cities, including a comprehensive literature review.

° The urban fringe: (1) is a zone linking a core of concentrated activity, the built-up area with a set of dispersed activities dependent on natural resources; (2) is undergoing conversion from activities of a primary nature to urban and urban-oriented activites; (3) is a mixture of changing land use activities. All three notions indicate dynamic effects: transition, change, mixture (p. 2).

° The essential problem from a policy and planning standpoint is not necessarily the actual use of the land but the purpose behind the property ownership. This confusion between use and purpose currently exists in planning circles on the problems at rural residential estates. Any typology that is to be of major use for policy and planning purposes must combine concepts of use - property - ownership - purpose (p. 15).

° Why do urban fringes with their transitory, relatively unstable, mixed and often conflicting activities occur around our cities? Five reasons are offered:

- the consistent population growth of our cities;
- the high level of transportation and communication facilities available;
- the almost unrestricted competition for land that is still so readily accepted in our society;
- the lack of unitary and consistent planning controls over the built-up city and its urban fringe.

Population demand is the initial thrust; our technology makes possible accessibility to the built-up city; competition for land accelerate the thrust; our insistence on individual rights ensures the thrust and a lack of unitary planning means no real governor exists to control the process. It is a system dominated mainly by positive feedback mechanisms (p. 22).

We do not apply cost-benefit analysis to people locating in urban fringe areas. Some of the questions which provide the framework for a recent book, The Politics of Land, are instructive (Fellmeth, 1973). (1) Are the costs to the public of private land-use practices charged to those who cause and profit from them? (2) Are tax systems allocating resources fairly and efficiently? (3) Are special privileges, incentives, subsidies defensible? (4) Are public works planned, constructed, and located efficiently to serve the interests of the public? (5) Are those receiving the benefits of public works and expenditures paying for them? (6) Does government effectively regulate or prohibit uses producing permanent non-compensable damage?

Lack of Unitary and Consistent Planning Controls

The above questions about individual and collective rights and about who pays and who benefits are really planning questions of concern to all levels of government. It is evident from various research studies and comments received across Canada that a lack of unitary and consistent planning controls are a major reason for the existence of an urban fringe zone and its problems. The institutional means to lessen the magnitude of the urban fringe zone and its problems have generally not existed or have not been seriously applied.

By unitary is meant a single planning agency which would have jurisdiction over the built-up urban area and all municipalities included in the urban fringe zone. By consistent is meant the regular implementation of planning controls which exist. Without unitary and consistent planning controls, the other causal forces noted as being instrumental in the development of an urban fringe are free to make their full impact.

The area of Canada having generally the fewest urban fringe problems according to comments received is the Prairie Provinces Region. It will be no coincidence that around major cities like Calgary, Edmonton, Saskatoon, and Winnipeg, sizable major fringe zones do not develop because of planning viewpoints (Province of Alberta, The Role of Regional Planning, 1972). In Alberta, Regional Planning Commissions are the jurisdictional approach used since 1957 (Gertler, 1968). In Saskatchewan and Manitoba, agreements were worked out between the city and its fringe municipalities (e.g., Greater Winnipeg Development Plan, 1968). The implementation of a series of regional municipalities - 1969-1973 - in Ontario had as a major underlying thrust the complexity of planning consistently for overlapping problems affecting both city and urban fringe municipalities. In Ontario, my own research experience beginning in 1960 has made it clear that the rapid development of large urban fringe zones has slowed down considerably. I attribute this slowing down primarily to an increasing move towards unitary and consistent planning controls. The other four factors seen as causal in the development of sizable urban fringe zones - population, technology, land competition and individual rights, are equally as strong today as they were in 1960. Given these factors in our Canadian society the question seems to be not whether we will have an urban fringe around our cities. Rather the question is whether it can be turned into a zone in which the land space resource will be used in a rational, optimizing way to benefit both the individuals and the collective body. In the second part of this essay, the problems perceived as existing in the urban fringe of major Canadian cities are outlined.

- End of Extract: Russwurm

The effort by Russwurm to develop a systematic typology of urban fringe problems and to indicate the relative intensity of these problems from the perspective of several interest groups is a particularly useful contribution. Eight categories of empirically derived problems are presented. They are:

1. haphazard, scattered, and conflicting land use activities,

2. services and taxation,

3. governmental, planning, and administrative difficulties,

4. land speculation, land fragmentation, and high land value,

5. environmental impact,

6. impact on agricultural land and activities,

7. social problems, and

8. impact on surrounding settlements.

Lorne H. Russwurm. **The Surroundings of Our Cities, Problems and Planning Implications of Urban Fringe Landscapes, 1977 (Community Planning Press, Ottawa).**

- Land surrounding our cities .. is of national as well as provincial, regional and local significance. At local scale it will be used to provide sites and spaces for the activities and needs of our still growing city populations. At regional scale, it will be used for transportation facilities and other public utilities... At the national scale, it will provide the land space as the needs of at least 90 percent of the people that will be added as our population grows from 23 to 30 million sometime in the next 30 years. (p.9)

- What the Urban Fringe Is:

  The urban fringe, thus, is the landscape adjacent to urban places of all sizes. It's inner boundary is marked by the continuous built-up edge of the city. It extends from within the legal area of the city into several separate surrounding municipalities. The outer boundary can be defined using specific measures such as population density, land use, or land ownership characteristics. In a conceptual and spatial sense, the urban fringe includes the zone which will become the location of most of the building additions to existing cities... approximately one-third of Canada's total farmland is within the urban fringe zone (said to extend outward about 30 miles from the built-up edge for Toronto, Montreal and Vancouver to about five miles for small cities of 10 - 25,000.

- ... a second reason (for delimiting a dynamic zone like the urban fringe) is the general nationwide interest in the setting up of larger local government units which more nearly approximate the daily movement systems focussed on our cities. (p.23)

- The alternative (to regional government) which has occurred in the past is annexation of land from the inner urban fringe to the city. This approach merely deals with the symptoms of the problem, rather than the cause.

° The arguments for annexation are logical but only insofar as they assume the City ends with its built-up area. (p.25)

° As a regional environment, the surroundings of our cities serve three broad land functions, namely as a natural environment, as a production environment and as a lived-in environment. (p.39)

° Russwurm identifies three broad areas of land use conflicts within the fringe: -(1) conflict between actions and desires of individuals and municipalities.
  -(2) conflict between present uses and future uses
  -(3) conflict between economics with its highest bidder and associated highest use notions and aesthetic and ecological values which are difficult to reconcile with the economic concepts.

Lessening of any of these conflicts demands regional government units having a regional planning authority based on urban regions as the administrative unit. Such regional units imply provincial recognition of the complexity of the land use problems and their viewing from a wider perspective.

° Fragmentation of land in the surroundings of our cities is of particular concern for farming operations and for future expansion of the built-up urban area into the surrounding inner urban fringe as it:

(1) helps drive up land values
(2) increases the number of owners who have to be dealt with in daily municipal administration
(3) makes future large scale land assemblies difficult
(4) has considerable effect on adjacent farm land values because of the higher prices which non-farm residents willingly pay and the uncertainty effect on farmers and their operations when a scattered pattern of mall holdings develops.
(5) in the context of c.r. development, it places in passive use considerable farmland acreages which may become difficult to reconvert to other more active uses. (p.45)

- The urban demand for residential homes in the countryside is nationwide. It is also part of our emerging form of city development which combines built-up areas and dispersed areas described by concepts like urban regions and urban fields... no longer can the urban fringe be viewed as primarily a transition zone ultimately destined to be converted to more or less continuous urban uses. Only in limited parts of the inner urban fringe is continuous conversion expected. Rather our cities are surrounded by a countryside interspersed in various ways by urban activities which take up about 5 to 10 percent of the land space. (p.50)

- The process involved with increased country residential develpment affects farmers in three way:
    - land fragmentation;
    - who pays and who gets (the service equity problem); and
    - variety of conflicts generated (p.51)

6.1 SUBSTANTIVE AND JURISDICTIONAL POLICY

Given the importance of urban fringe land, the big question is: what policies can be used to make wiser use of the land potential? Any successful policies must equally consider all four major functions of land, protection, production, play and place.

Such a question demands outlining first what is meant by policy. Like the words system or environment, it has many different meanings for different people. Generally it means the course of action taken by any group that has the power to bring its actions into being. Legally, most policy is written in legislation, in constitutions, in by-laws, but it can be unwritten. For official plans, policy is described as what the public authorities are going to do to achieve the objectives stated in the plan (Bruer, 1972).

It is important to recognize both substantive and jurisdictional aspects of policy (Boothryd and Marlyn, 1972). Substantive policy is what things are to be done; jurisdictional policy is who is going to do it and how is it going to be done. A land use policy that works will link substantive and jurisdictional policy clearly. Lack of such linkages is an ongoing problem in the management of land in the surroundings of our cities. Often substantive policy was lacking or jurisdictional policy bore undefined relationships to it. One of the merits of regional municipalities should be the integration of substantive and jurisdictional policy.

6.2 SCIENTIFIC AND INCREMENTALIST POLICY APPROACHES

To a considerable degree, the distinction between substantive and jurisdictional policy also reflects two policy approaches which need to be combined. One approach assumes that policy must be based on a thorough knowledge of the system which we seek to maintain or change. This is the careful, scientific approach. This would represent "pure" substantive policy. The other assumes that things take place in many, often disjointed, small incremental steps determined by how local, provincial, and national politicians and others in power read public feelings about problems. In our imperfect but real world of Canadian private enterprise and public democracy both approaches operate all the time.

In a recent paper, presented at the National Social Science Conference, November, 1975, H. L. Laframboise. Assistant Secretary, Ministry of State for Urban Affairs, makes the same point in a different way. He commented on the scientific input of social scientists in providing trained people, in providing good information, in providing organizing concepts to help understand Canada's problems. But then he noted that the direct influence of social scientists on policy recommendations was limited. They can identify the issues but cannot provide clear-cut answers. Politicians at all levels of grovernment must act; therefore they sharpen up the problem so they can do something. In disjointed, incremental steps, they provide answers. The problem may be falsely or correctly sharpened up, the answers may be workable or not. But something is done in terms of jurisdictional policy. Or a course of inaction may be chosen — policy by avoidance. Good policy will combine both scientific and incremental approaches and will clearly link substantive and jurisdictional aspects of policy.

6.3 POLICY AND SYSTEMS

My comments on policy implications and the management of the urban fringe land space reosurce are based on a systems approach. A systems approach assumes that substantive and jurisdictional policy will be integrated, and that the scientific and incrementalistic approaches operate simultaneously. Two basic notions underlie the systems approach as I see it (Russwurm, 1973). (1) The complex human ecosystems with which we are concerned are fundamentally unknowable or beyond complete comprehension. Three attributes of such systems stand out: they are always in a state of becoming; their behaviour is often counter intuitive, i.e. unexpected things happen; and we must recognize as far as possible the level of our ignorance along with our level of knowledge. (2) In using a systems approach, one assumes that systems are divisible analytically into subsystems which interact and are interdependent parts of the total system.

Using such a subsystem approach increases understanding and reduces the level of ignorance about individual subsystems. At the same time however, the remaining level of ignorance can still be compounded resulting in unexpected behaviour of the total system. In policy terms, solutions for the parts can create problems for the whole. The collective phenomenon and the externalities involved in urban fringe development already referred to are examples. Policy makers are regularly faced with problems on which they must act on the basis of imperfect understanding. But their actions are more likely to be helpful if systems thinking is used.

What are the general policy implications for urban fringe land? The major implication arising out of the reasoning and evidence presented in this paper is the need to treat urban fringe land as land whose natural, economical, and cultural characteristics give it national as well as provincial and regional-local significance. The urban fringe land space is a major sybsystem of our emerging city of today.

Canadians show concern about urban growth, environmental problems, land and housing problems at all levels of government. Increasingly a substantive course of action involving all three levels of government jurisdictionally is now politically feasible as well as essential. A hierarchical systems approach to land policy is required in which each level of government must co-operatively agree on its goals and functions. Higher level systems in theory, when goals and functions are agreed on between subsystems, should primarily take on a watch dog and co-ordinating rather than a controlling role. *Theoretically*, this means meshing together, as a single integrated system, national, provincial and local governmental units which share influence over land and what people do with and on the land. *Operationally*, one can hope!

The urban fringe problem areas discussed in Chapter 4 are predominately problems of what people do with and on the land. We are gradually recognizing that how we use land is intermeshed closely with other environmental, economic and cultural issues. Policy will come equally slowly. Encouragingly after slowly developing policy to attack the simpler problems of air and water pollution, the "equally troublesome and vastly more complex matter of preventing abuse of land and encouraging land development practices" is being tackled (Carter, 1973).

Since the provinces hold the basic power to regulate land in Canada, they hold the pivotal position for land policy. It has become clear in Canada and the United States that problems of air and water pollution cannot be overcome without integrated policies involving federal, provincial, and municipal levels of government. The same lesson, however, is still being learned about land use policies. Any attempts to integrate policy of any kind will founder unless provinces accept that issues are not contained by provincial boundaries. A general assessment of the evolution and present state of land policy in Canada is provided by Greiner (1974) and the Canadian Council of Resource Ministers (1975). Despite a variety of individualistic provincial acts about land ownership by foreigners, we are still only in an incipient stage of developing a national land use policy.

The United States is a step further along the road. There a national Land Use Policy Act passed in the Senate, 1973 identified five categories of concern: 1) areas of critical environmental concern; 2) areas impacted by key facilities; 3) proposed large scale developments; 4) development and land use of regional impact; 5) large scale subdivisions (undefined but probably 500 units and over). The companion act which would really operationalize land use policy at an integrated national-state scale has not yet made it through the U.S. House of Representatives. Most occurrences of these categories of concern are prominent in the urban fringe zone.

An integrated hierarchical approach to land use problems of the urban fringe involving all levels of government would have the federal government concentrate on broad policies. A suggested one would be means of protecting our limited areas of prime agricultural land. Provinces would develop specific provincial policies fitting into the broad national strategies. Programmes would then be passed on for operational implementation by municipal units. Thus, the two higher levels of government are seen as dealing with problems of the urban fringe arising out of urbanization processes which recognize no boundaries. And the municipal units would concentrate on problems in the urban fringe (Martin, 1974c). That is, local government regulations affect specific people in specific places. Hopefully municipal government units would reflect functional urban regions, the daily, weekly, and seasonal urban systems of people carrying out their activities.

6.4 POLICY AND LAND STRATEGIES

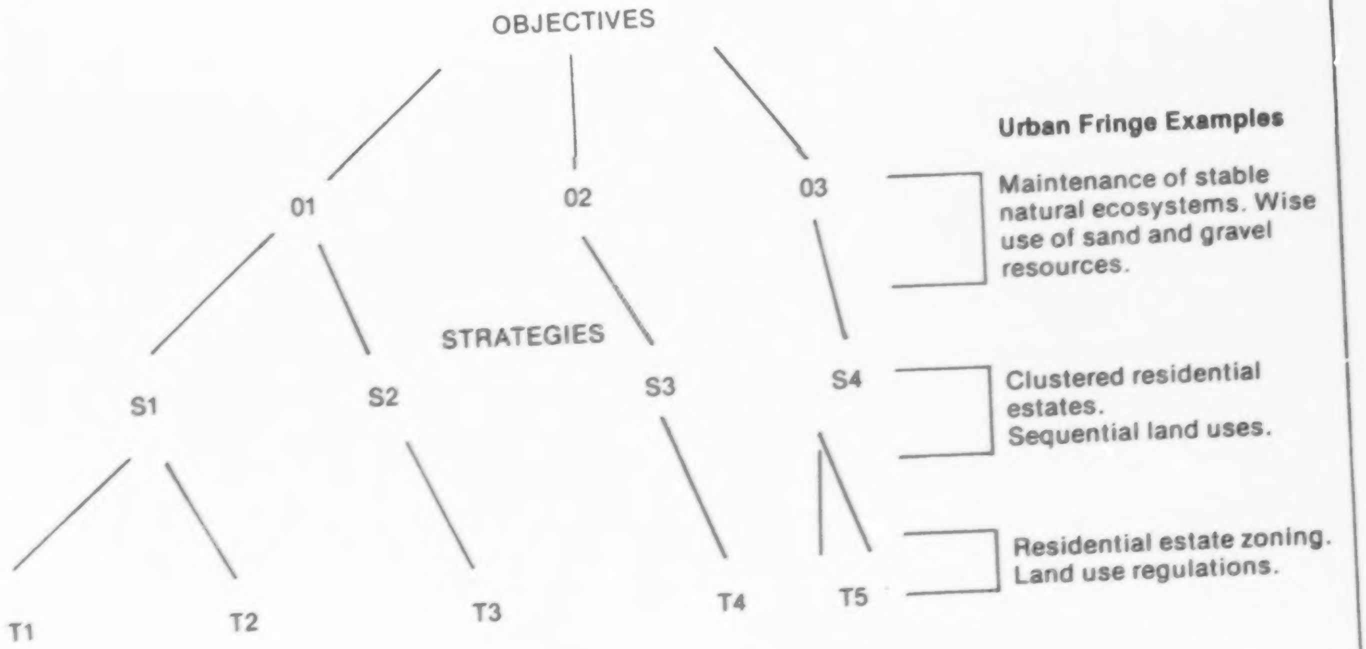
The key role of a national strategy for land would be to enhance as far as possible, across Canada's major regions, an optimizing mix of the protection, production, play, and place functions of land. Maintenance and improvement of the natural environment, of resources and their use, and of the man-built environment are the crux of a national strategy for land and its role in natural, economic and cultural environments.

The concern of the national government must be with the long run health of the country. This concern should penetrate through the provinces to municipalities. For instance, the fruitlands of Niagara and the Okanagan are unique in Canada and thus merit national attention. But these lands are still being converted to urban uses often carelessly and unnecessarily at the municipal scale. The urban fringe of Penticton, Kelowna, and Vernon include much of the Okanagan fruitlands. So do the urban fringes of St. Catharines and Hamilton for the Niagara fruitlands.

In both cases considerable acreages of a unique resource were lost before the provinces holding the pivotal role acted. In British Columbia the means is the B.C. Land Commission; in Ontario, it is the still developing official plan of the Regional Municipality of Niagara. Its first attempt was turned back by the province because local municipalities designated too much fruitland and other land for urban development. Detrimental inter-municipal competition continues to rear its head even in regional government units! What is still lacking in this urban fringe example is a clear-cut federal government input which would state that these fruitlands are national, not only provincial or local resources. Throughout this monograph, I have made the same argument as above for all urban fringe lands.

A land strategy at all levels of government implicitly or expli-

Figure 4 OBJECTIVES, STRATEGIES, AND IMPLEMENTATION TECHNIQUES


OBJECTIVES
01
02
03
STRATEGIES
S1
S2
S3
S4
T1
T2
T3
T4
T5
Urban Fringe Examples
Maintenance of stable natural ecosystems. Wise use of sand and gravel resources.
Clustered residential estates.
Sequential land uses.
Residential estate zoning.
Land use regulations.

(After C.R. Bryant, L.R.G. Martin, S.G. Rich, and A.G. McLellan, 1973.)

citly underlies the objectives of a land use policy. Such a strategy should imply "a conscious attempt at coordination of the tools, and development of new tools, towards the attainment of well-defined goals" (C. R. Bryant, et al., 1973, p 12).

For urban fringe lands, the overall goal should be the best possible use of the protection, production, play, and place potential of land. This potential is assessed in greater detail by Russwurm (1975a). Objectives at all levels of government should arise out of needs expressed through our natural, economic and cultural environments. Examples can include the maintenance of stable lake and river ecosystems, the use of new towns located on poorer agricultural land to meet housing and community needs, or the economic maintenance of supplies of sand and gravel for building purposes without disbenefits to natural or cultural environments. The linkages between objectives, strategies and tools of implementation are schematized in Figure 4. Generally speaking, strategies represent substantive policy and tools of implementation represent jurisdictional policy.

What we need and hopefully will demand as a land strategy for the urban fringe then must combine a careful assessment of the potential of land for various uses and a careful consideration of inputs from natural, economic, and cultural environments, and clearly articulated inputs from our three levels of government. If systems thinking becomes more a part of all three levels of government with resultant integration of objectives, then the great potential of the urban fringe to meet both place and resource activities can be achieved.

- End of Extract: Russwurm

Russwurm, L.H. "Land in the Urban Fringe: Conflicts and Their Policy Implications" in Essays on Canadian Urban Process and Form II. 1980.

- 95% of future urban land developments, including new towns, will take place within present urban fringe areas - accretionary to existing built-up areas.

- today the land space of the urban fringe is in urgent need of comprehensive planning and public protection. It is a land space, which in Canada before the 1960's received little planning or public protection. Yet, because most of its area is facing demand for future urban development but is still open land, it is the land space where wise choices for future land use activity changes are still possible. p. 458.

- the economic environment subsystem is pirotal in conflicts in the urban fringe. ...the economic aspects of the concepts of location "highest" use and individual action have largely determined what land use activities exist where in the urban fringe. Increasingly, however, the dominance of the economic environment is challenged by needs to protect other interests.

- rising incomes, increased leisure time and longing for a home among the joys of nature create demand for country residential development.

- given factors of a demand threshold, an increased supply and a declining growth rate, it can be anticipated that only limited additional demand will occur for more country residential development during the 1980's. p. 469.

Technology

- the ease of movement and communication technology help urban fringe development.

  - City centres can be reached in less than 45 minutes
  - work, shopping and cultural attractions are as accessible to fringe dwellers as they are to city dwellers

- communications - urban fringe dwellers as accessible to media as city dwellers

  "Television and radio are equally available and with minor inconveniences like walking out to the road so is mail and daily newspapers. Costs for these services are usually only marginally higher than they are in cities. This is so because costs are subsidized by those living at higher densities. We continually try to reduce the effects of the friction of distance; witness the increasingly large toll free telephone areas that have developed around our cities over the past ten years. All in all, the locational disadvantages of living up to 80 kilometres outside cities have been increasingly minimized since World War II. As a consequence, the advantages are magnified." p. 471.

Individual Rights

- Individual rights engender a conflict which Friedmann (1973) calls the collective phenomena. Such phenomena appear as the unintended by-product of many individual decisions. Individual residences are the most noticeable and most acceptable manifestation of individual rights in the urban fringe.

- based on:
  - (a) life-style preferences
  - (b) property rights
  - (c) accessibility - services rights.

- "acceptance by Canadian society that people are entitled to some common level of accessibility and services whether located in the built-up area or outside of it helps ensure sizable urban fringe zones around our cities. The ongoing area of conflict revolves around whether or not the users of the service pay their fair share of the costs." p. 474.

Unitary and Consistent Planning Controls

- unitary: single planning agency having responsibility for the built-up area and all municipalities comprising the urban fringe.

- consistent: regular implementation of existing planning controls.

° In all Canadian provinces, moves are being made towards either developing or strengthening unitary and consistent planning controls. p. 476.

"The question is not whether we will have an urban fringe around our cities, such zones are part of our regional city form. Rather, the question is whether they can become zones in which the land space resource will be increasingly used in a more rational, more optimizing way to benefit both individuals and the collective body at national, provincial and municipal scales." p. 476.

Urban Fringe Problems

(a) Impacts on natural environment (conservation areas).

(b) Exploitation - the economic environment (land viewed as a commodity for short-term economic gains).

(c) Conflicts - land conversion - land speculation represents unearned increments and leads to high land costs.

(d) Land Use Activity Conflicts - agriculture, extractive mining, country residential.

Country Residential - costs

(i) Problem of equity of costs and services. Generally, urbanites living in the country receive more services than they pay for while the farmer pays for more than he receives. Equitable and economic provision of services requires compact, continuous urban development. Costs of services like roads, ditches, watermains, sewers, power and gas lines are basically proportional to their length.

"With sprawl-type development, the costs of specific services may be two or three times as high per household as for compact development. This was already shown in early studies by the Lower Mainland Regional Planning Board (1956, 1963). Usually the costs of services provided are spread over the entire municipality. Consequently, some people are subsidizing uneconomic services for others and equity between services received and taxes paid falls by the wayside." p. 489.

(ii) Fragmentation. Fragmentation of land in the urban fringe is another collective phenomena primarily associated with residential lots. Three specific external costs can result. (1) Smaller parcels are typically worth more per acre or square foot. As a result land values increase and affect surrounding properties. (2) More owners have to be dealt with in daily municipal administration and for possible future large scale land assembly projects. (3) Farm land values and operations are affected for two reasons. One is the higher prices paid readily by urbanites as part of their experience given their urban background. The other is the uncertainty effect on farmers and their operations if a scattered pattern of small holdings develops." p. 490.

Recommendations: If residential lots are to be permitted in the urban fringe, along with a satisfactory level of services and a sound use of land, then such development must be seen as part of a system of closely, interrelated parts, all of which must be planned for simultaneously. The common regulatory approach used to date is a minimum lot size of 5, 10, or even 25 acres to discourage development. Such an approach is non-systems oriented, is self-defeating, wasteful of land and will create future development problems. What is needed, if the right to rural residences for urbanites continues to be accepted, is designated areas for small cluster developments based on mostly small but variable lot sizes, fitting into a regional plan which tries to recognize potentials and conflicts for various land use activities. Such an approach is outlined in the Winnipeg Region Studies and in two Alberta studies (Manitoba Municipal Planning Branch, 1975, Alberta Provincial Planning Branch, 1974, 1976).

Four types of policy implementation tools: used to apply to land use activities in the urban fringe.

(1) Most common are the regulatory measures of zoning, subdivision control, and varied offshoots embodied in provincial and local policy by-laws. Positive and guiding applications rather than the more usual negative and restricting ones are necessary.

(2) Also common is the outright public purchase of land for various uses thought to be of public benefit. Land for residential use is included here.

(3) Control of development rights in land through transfer, easements, and other agreed upon restrictions holds forth definite policy implications.

(4) The application of taxation measures to encourage some activities and discourage others is just starting to be used in Canada. It has been much further pursued in France (Bryant and Martin, 1976). Included here are direct subsidies and the recouping by the municipality of unearned increment (betterment) to the value of land resulting from community actions. These fall into three broad categories: the general economic growth of cities, the rezoning of land uses from less profitable to more profitable ones, the public investment of money into the service infrastructure of cities e.g. roads, bridges, sewers and so on (R.W.G. Bryant, 1972). p. 494.

Larry Martin. A Comparative Urban Fringe Study Methodology. 1975.

- 1949 Federal Advisory Committee on Reconstruction - U.F. problems related to the lack of comprehensive town planning.

  The urban fringe problems identified included:

  1. "haphazard fringe dispersion" and "drainage of urban core population",
  2. development of road transportation facilities that encourage sprawl and "ribbon development along the main exit-highways",
  3. mismatch between demands for public facilities and distribution of tax resources, and
  4. "excessive costs of public facilities and services...because of wide residential dispersion...".[6]

- 1958 Resources for Tomorrow Conference

  The major conclusion of the Conference with respect to the urban fringe was that disorderly, low density urban development not only was making the urban fringe extremely expensive to service but also was resulting in the tragic loss of prime agricultural land. It concluded that this problem must be solved through a regional approach to land use planning and decision making.

- 1973 Calgary Planning Department Report: Residential Development in Calgary: Inventory and Prospect.

- "Trends toward declining suburban densities and increased population growth rates on the fringe foretell of increasing rates of land absorption, costly roadway systems and either costly or deficient utilities and public services." p. 26.

Proceedings of an Invitational Seminar on Urbanization: Canadian Perspectives on Urban Growth and Decline. 1984. The Centre for Human Settlements. University of B.C., 1984.

Table 5

Principal Directions of Urban Growth and Population Redistribution in Canada

Scale	Dominant Tendency	Description	Explanatory Variables
nation	decentralization	movement of population, jobs, wealth from central industrial heartland to the west	decline in manufacturing, expansion of resource-based sectors (e.g. energy); lifestyle and retirement migrations and government
national urban hierarchy	deconcentration	shift in net balance of growth from larger to medium-size satellite urban centres	decline in agglomeration economies, shift of growth to newer regions and to smaller centres; diffusion of technology and culture down the urban-size hierarchy
regional (provincial) urban systems	centralization	relative shift in growth towards central parts of regions and away from periphery	decline in selected resource sectors, and in older industrial locations; immigration; retirement migrations; search for amenity locations
*metropolitan regions	decentralization	continued movement outward from the metropolitan core to the surrounding fringe (the urban field)	demographic transition; congestion and land costs, building restrictions, transport facilities; out-migration of labour and retirement populations

p. 18

- "not no metropolitan growth or rural renaissance but this trend can be described as foreshadowing the creation of a new urban form that is more spatially extensive, diffuse, and diverse than its older industrial counterparts." p. 19.

- "most metropolitan areas show a similar pattern of population change: a decline at the core and in the post-war neighbourhoods is offset by conventional suburban development at the edge." p. 25.

TABLE 3

POPULATION AND HOUSEHOLD CHANGE: TORONTO CMA, 1971-1981

	1971		1976		1981
City					
Population (000s)	712.8		633.3		599.2
change (000s)		-79.5		-34.1	
% change		-11.2		- 5.4	
Households (000s)	224.7		230.4		241.3
change (000s)		5.7		10.0	
% change		2.5		4.7	
Household Size	3.05		2.67		2.41
change		- 0.38		- 0.36	
% change		-12.5		- 9.7	
% Non-Family Households	34.7		40.9		46.1
change		6.2		5.2	
% change		17.9		12.7	
Family Size	3.24		3.18		3.06
change		- 0.06		- 0.12	
% change		- 1.9		- 3.8	
The Suburbs (Metro-City)					
Population (000s)	1376.9		1491.0		1538.2
change (000s)		114.1		47.2	
% change		8.3		3.2	
Households (000s)	405.0		482.6		535.1
change (000s)		77.6		52.5	
% change		19.2		6.2	
Household Size	3.37		3.05		2.84
change		- 0.32		- 0.21	
% change		- 9.5		- 6.9	
% Non-Family Households	14.9		20.0		24.1
change		5.1		4.1	
% change		36.4		20.5	
Family Size	3.42		3.26		3.14
change		- 0.16		- 0.12	
% change		- 4.7		- 3.6	
The Fringe (CMA-Metro)					
Population (000s)	512.4		678.8		861.5
change (000s)		166.4		182.7	
%change		32.5		26.9	
Households (000s)	137.2		196.5		263.9
change (000s)		59.3		67.4	
% change		43.2		34.3	
Household Size	3.90		3.41		3.23
change		- 0.49		- 0.18	
% change		-12.6		- 5.3	
% Non-Family Households	10.3		12.5		14.4
change		2.2		1.9	
% change		21.4		15.2	
Family Size	3.72		3.52		3.37
change		- 0.2		- 0.15	
% change		- 5.4		- 4.3	
CMA Total					
Population (000s)	2602.1		2803.1		2998.9
change (000s)		201.0		195.8	
% change		7.7		7.0	
Households (000s)	766.9		909.5		1040.3
change (000s)		142.6		130.8	
% change		15.7		14.4	
Household Size	3.34		3.03		2.84
change		- 0.31		- 0.19	
% change		- 9.3		- 6.3	
% Non-Family Households	85.5		78.8		75.5
change		- 6.7		- 3.3	
% change		- 7.8		- 4.2	
Family Size	3.44		3.31		3.2
change		- 0.13		- 0.11	
% change		- 3.8		- 3.4	

- Deindustrialization in the U.S. - transformation from industrial to post-industrial activities. Why?

  - What labour force industry is looking for is in stable communities still imbued with the Protestant ethic. The new electronic technology enables them to relocate.

  - Affluence - discretionary income which permits people to make choices about the location of their residence which was not possible when lower incomes only permitted basic survival. p. 31. (i.e. 9% of people in B.C. principal source of income from investments - not tied to traditional location.)

- Warren Gill Study - only two of the mainstream lifestyle groups.

  1. Yuppies - They choose inner-city locations and have particular housing needs and experiential demands which often fuel gentrification.

  2. Rurbans - essentially small town and rural people who are appended to the city because they find it advantageous economically. Yet they detest it. They live as near to the city as they dare, but no further. p. 33.

- The spatial distribution of people within the region is produced to a large measure by life cycle factors. p. 46 (baby boomer era).

- Given modern information networks, these services will probably locate increasingly in places with the right labour force. p. 54.

- People today benefit from increased energy, efficient transport services which can be decentralized and inventions which allow a lot of home technology. p. 59

Trend

- An urban way of life is successfully improved and maintained by spatial decentralization with a decline in time costs, ample ecological buffering and increase in communications." p. 61.

Kenneth J. Dueker, James Strathman, et al. "Rural Residential Development within Metropolitan Areas". Urban Systems, Vol. 8, No. 2, pp. 121-129. 1983.

° Analysis of population patterns in the U.S. during the 1970's has shown a substantial redirection to non-metropolitan areas. A similar redirection to rural parts of metropolitan areas is occurring.

° Sprawl: hypothesized as 'waste' and 'inefficiency'. Hart suggests that "before one concludes that rural residential development is undesirable... one should ask why so many people seem to like to live in such fashion, despite all the fulminations of the planners and other experts." p. 121.

° Concludes that efforts to control land use at the urban fringe must be accountable to the charge that a rational market-clearing process is being constrained by public intervention. Our results concur with Kasarda's (9) statement that "it is now being apparent that peripheral growth is not nearly as random or inefficient as once believed." p. 122.

° Theories (Alonso, Moth) conclude that higher income households consume a larger quantity of housing relative to commuting costs, and that higher income households tend to locate farther from the city center. p. 122.

Planning Context

° "The spread of urbanization has brought about land use controls to stem leap-frogging residential development. These controls seek to contain urban expansion, thereby increasing densities and preserving open space and agricultural land from residential encroachment. Large-lot zoning is the key land use control employed in the effort to inhibit decentralized growth. Minimum lot size requirements prevent conventional residential development of areas that are designated 'agricultural' or 'open space', or where densities must be low to be consistent with a minimal provision of public services. In effect, large-lot zoning attempts to reduce demand by reducing the supply of land available for development at the urban fringe.

Despite the planning intent, there is yet a significant and growing population in the rural areas with SMSA's(15). Planners have tended to view this growth as inefficient while at the same time fringe locations have been highly sought by consumers." p. 122.

- Although large lot zoning is intended to deter urbanization of an area, the outcome is often to spread development over a wider area. In reality this zoning may only distort the market for rural residential development and detract from alternative solutions as density-differentiated pricing of services.

- A better understanding of the rural residential land market is needed to effectively direct growth. p. 123 (elements affecting consumer demand).

Results of Study (rural non-farm households compared with suburban households)

- Difference in commuting distance (cost) is negligible (rural residents have achieved economy in location without incurring greater transportation costs).

- two sets - households precluded from the urban market for the amount of space they prefer and exurban households who are exercising their preference for large amounts of space (privacy, seclusion).

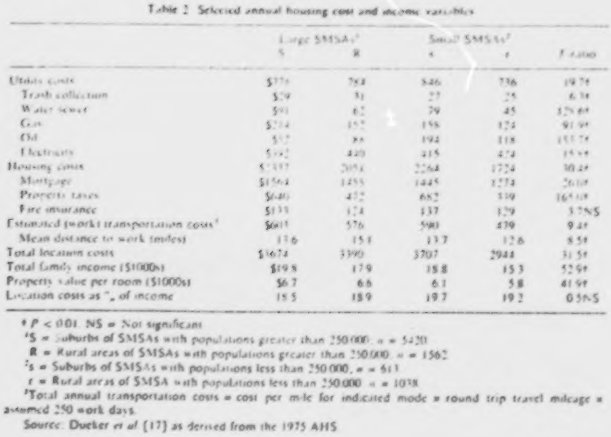


Table 2 Selected annual housing cost and income variables

	Large SMSAs[1]		Small SMSAs[2]		
	S	R	s	r	F-ratio
Utility costs	$776	768	846	736	19.7*
Trash collection	$29	31	27	25	6.3*
Water sewer	$91	62	79	45	125.6*
Gas	$214	157	158	124	91.9*
Oil	$57	88	194	118	151.7*
Electricity	$392	420	415	474	15.9*
Housing costs	$2337	2051	2264	1724	30.4*
Mortgage	$1564	1455	1445	1274	26.0*
Property taxes	$640	472	682	319	165.0*
Fire insurance	$133	124	137	129	3.7NS
Estimated (work) transportation costs[3]	$615	576	590	470	9.4*
Mean distance to work (miles)	17.6	15.1	13.7	12.6	8.5*
Total location costs	$3674	3390	3707	2944	31.5*
Total family income ($1000s)	$19.8	17.9	18.8	15.3	52.9*
Property value per room ($1000s)	$6.7	6.6	6.1	5.8	41.9*
Location costs as % of income	18.5	18.9	19.7	19.2	0.5NS

* $P < .001$. NS = Not significant.

[1] S = Suburbs of SMSAs with populations greater than 250,000, n = 5420.
R = Rural areas of SMSAs with populations greater than 250,000, n = 1562.

[2] s = Suburbs of SMSAs with populations less than 250,000, n = 613.
r = Rural areas of SMSA with populations less than 250,000, n = 1038.

[3] Total annual transportation costs = cost per mile for indicated mode × round trip travel mileage × assumed 250 work days.

Source: Dueker *et al* [17] as derived from the 1975 AHS.

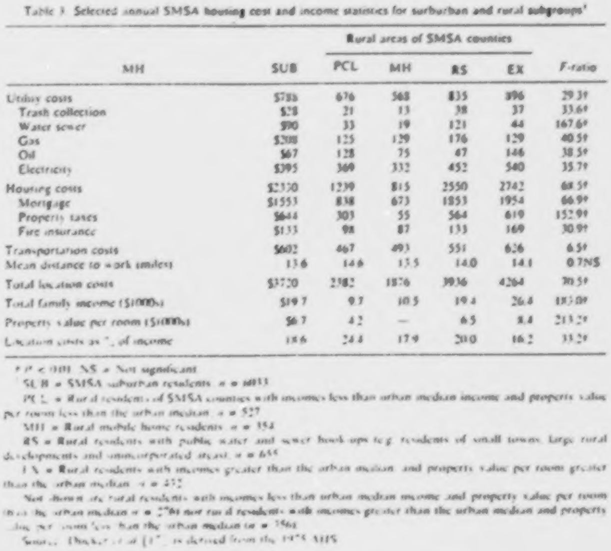


Table 3 Selected annual SMSA housing cost and income statistics for surburban and rural subgroups[1]

		Rural areas of SMSA counties				
MH	SUB	PCL	MH	RS	EX	F-ratio
Utility costs	$786	676	568	835	896	29.3*
Trash collection	$28	21	13	38	37	33.6*
Water sewer	$90	33	19	121	44	167.6*
Gas	$208	125	129	176	129	40.5*
Oil	$67	128	75	47	146	38.5*
Electricity	$395	369	332	452	540	35.7*
Housing costs	$2330	1239	815	2550	2742	68.5*
Mortgage	$1553	838	673	1853	1954	66.9*
Property taxes	$644	303	55	564	619	152.9*
Fire insurance	$133	98	87	133	169	30.9*
Transportation costs	$602	467	493	551	626	6.5*
Mean distance to work (miles)	13.6	14.6	13.5	14.0	14.1	0.7NS
Total location costs	$3720	2382	1876	3936	4264	70.5*
Total family income ($1000s)	$19.7	9.7	10.5	19.4	26.4	183.0*
Property value per room ($1000s)	$6.7	4.2	—	6.5	8.4	213.2*
Location costs as % of income	18.6	24.4	17.9	20.0	16.2	33.2*

* $P < .001$. NS = Not significant.

[1] SUB = SMSA suburban residents, n = 6013.
PCL = Rural residents of SMSA counties with incomes less than urban median income and property value per room less than the urban median, n = 527.
MH = Rural mobile home residents, n = 354.
RS = Rural residents with public water and sewer hook-ups (e.g. residents of small towns, large rural developments and unincorporated areas), n = 655.
EX = Rural residents with incomes greater than the urban median and property value per room greater than the urban median, n = 472.
Not shown are rural residents with incomes less than urban median income and property value per room more than the urban median (n = 2761) nor rural residents with incomes greater than the urban median and property value per room less than the urban median (n = 1561).
Source: Dueker *et al* [17] as derived from the 1975 AHS.

Table 4. Overall Neighborhood Rating for Precluded/exurban Subgroups

Subgroup	Not on Public Sewer: Short commute	Not on Public Sewer: Long commute	Served by Public Sewer: Short commute	Served by Public Sewer: Long commute
Precluded (PCL)	1.69	1.92	1.79	1.88
	(0.67)	(0.75)	(0.82)	(0.69)
	n = 97	n = 140	n = 40	n = 40
Exurban (EX)	1.43	1.39	1.49	1.42
	(0.57)	(0.57)	(0.69)	(0.54)
	n = 167	n = 246	n = 73	n = 139

Overall neighborhood rating 1.56 for all households. (Standard deviation in parentheses).

1 = Excellent
2 = Good
3 = Fair
4 = Poor.

Source: Dueker et al (17) as derived from the 1975 AHS data.

° tables show a high level of residential satisfaction for residents in rural residential areas

Summary of Tables

The analysis of the AHS data indicates the existence of a diverse rural nonfarm population. Income differences were associated with large differences in housing characteristics, but smaller differences in residential satisfaction.* Satisfaction was slightly influenced by length of commute but not by the existence of public services. In short, it appears that rural residents were able to select housing bundles that approached their needs and preferences.
p. 126.

- Kain - no reason to expect that an increase in transportation costs will affect the 'typical' resident of the U.F. more than other metropolitan residents. p. 127.

Summary

- Motives for rural living are varied. Some households are attracted because of low land values and low-cost services, while others are attracted to large lots that provide the flexibility to build a unique living environment. The former group seeks to reduce public services to maximize the quantity of housing, while the latter group seeks privacy and seclusion by maximizing the quantity of land. p. 127.

- In comparison with residents of suburban areas, neither the economy-minded nor the space-maximizing residents of rural areas are in actual terms having to trade off increased commuting distance/time to achieve equally satisfying residential locations. Suburban employment growth is the probable explanation for this finding.

- The high satisfaction with rural living and the strong preference for space indicates a continued demand for rural living even in the face of higher energy costs.

- Zoning approaches to restrict supply of rural land should be re-examined with respect to: (i) allowance for an adequate consideration of a broad range of land use options to meet a diverse demand, (ii) provision of an adequate mix of public services, and (iii) allowance for upgrading services in case of subsequent increase of density by infill. p. 127.

Policy Implications

- reliance on zoning may spread development over a wide area or be exclusionary.
- existence of strong preference for rural living by subgroups of population.

*- correct (real) pricing of rural housing could reduce pressure for deleterious development. p. 128. i.e. recognize the role that the public sector plays in providing for rural residential environments.

Need to Remedy

- Subsidized public service provision:

"In the provision of services to rural residents, pricing policies must account for the higher unit costs associated with a population which is more dispersed than its urban counterpart. Utilizing marginal cost pricing for services provided to rural residents would both eliminate any hidden subsidy of rural development and encourage a more orderly and compact expansion.

- Open space:

"In addition to being subsidized in public service provision, rural residents are also able to capture external benefits from the open space provided by typical rural land uses. The added utility of open space is provided at no cost, except where it imposes constraints upon the source of the benefits. This can occur, for example, when residential and agricultural land uses conflict, resulting in the regulation of agricultural activities (e.g. feedlot restrictions). This scenario applies especially in areas of more rapid rural development. Such an outcome can be avoided by anticipating potential land use conflicts and requiring that the open space amenity be self-provided (internalized). By requiring rural subdivisions to provide common open space, rural living would be made more expensive and a more compact urban form would be promoted.

Lower Mainland Regional Planning Board of B.C. **Economic Aspects of Urban Sprawl. A Technical Report.** **May 1956.**

Sprawl is a continuing problem and not self correcting - would require tremendous population growth to fill the sprawl areas to urban densities

1. What does sprawl cost?

    (a) social (not adequately provided with services)
    (b) utility costs: utilities - such as roads, ditches, water mains, sewers, power and gas lines - have one important factor in common - the cost to the property owner of providing them increases as the frontage increases. p. 14.

2. Sprawl and Municipal Economics

    - do these areas bear their own costs?
    - study examined how much it cost the municipalities to provide services to farm, sprawl, and suburban areas and how much revenue the municipality received in turn from these areas. p. 15.

Conclusion

Study showed that, on the average, farm areas paid 50 percent more in taxes than they received in services and sprawl areas paid 12 percent less than they received...Suburban areas are normally capable of at least paying their way and often of providing a surplus of revenue over expenditure. p. 17.

"It is in the best interest of the municipality to retain large farm areas as long as possible. In the ideal situation they would be held until they could pass directly into compact urban reisdential use, by-passing costly low-density development." p. 28.

"Suggest taxation relief for large farm holdings. The municipality gives up a certain amount of taxes and in return it is assured that for many years a substantial area will require little in the way of new services. The farmer gives up the right to immediate subdivision and in return obtains tax relief." p. 29.

Mark L. Seasons. Economic Development in the Calgary Region: Current Practice and Future Approaches. **August 1985. Master of Environmental Design Thesis.**

Relationship between Community Development and Economic Development

- avoid redundant infrastructure
- use existing services more efficiently
- quality of life - to stay in home community, to be near close friends, family and familiar surroundings.

> "It is in local communities that people find jobs, earn money and make the majority of their purchases. This is one reason people live together in communities and why they will always do so. Hence, the provision of jobs, goods and services by local business must be thought of as one of the functional requisites of community life."

- Economic development refers to increases in the standard of living of those who live in an urban area (population, jobs, goods and services), 'well-being' of a community.

- "Best use of the community's limited economic resources in a long-term process aimed at preserving the "good" and improving the "less good" in community life - improved community quality of life.

- In earlier period, the focus of municipality was coping with growth pressures, absorbing and using abundant resources.

- Now - respond to problems created by decreasing revenues (increased costs for social services, reduced usage of infrastructure, and related past investments, reduction in municipal revenues at same time municipal costs are rising (business failure, increased unemployment, reduced intergovernment transfer payments). FISCAL GAP.
  Process of circular causation - multiplier effect.

Need to

- Keep young population in community.

- Maintain moderate prosperity for local businesses.
- Modest economic and population growth.

The Economic Development Planning Model

- Know its internal strengths and weaknesses
- Goals:

  (a) retain existing industry and business in the community
  (b) attract new industry to the community
  (c) foster a strong spirit of entrepreneurship within the community.

  "future self image".

- Make the local economy an effective vehicle for "creating, fostering and preserving" increased community well-being.

- Community should recognize itself as an organization with common problems and as the vehicle by which its collective resources may be applied to the issues identified. p. 47.

Province - policy of universal provision of municipal infrastructure assistance.

Constraints to Urban Municipality

- limited control over disposition of municipal revenues
- poor local government management skills (i.e. planning, economics) concentrate on provision of services and facilities)
- lack of natural resources
- know the local work force
- know the local economy
- have an adaptive and progressive community attitude
- growth vs. no-growth ("the integrity of the community's environment, the costs of increased size and economic growth, noticeable preference for smaller, more manageable communities.

- statutory restrictions in Acts that skew local decision-making (infrastructure assistance)
- municipality has control over pattern and location of economic activity, future land uses, etc. - invest in services and facilities that contribute to quality of life.

Actors:

° Municipality	)
° Chamber of Commerce	) Need an organizational
° Economic Development Committees	) structure
° Community Service Organizations	)

- The problem lies with communities that have assumed debts and carried out their planning based on a continuation of the rapid growth rate which evaporated with the Regional economic slowdown.

- Looks at age profiles - indicates development initiatives undertaken in a community (e.g. maintenance of the status quo in "older" communities, the introduction of new employment opportunities in "younger" towns.

- In a period of little or no growth in local economies, municipalities are experiencing flat income generation and increasing expenditures, the gap therefore widens. Municipalities will decrease their discretionary expenditures while meeting long-term fixed debt commitments.

- "The greater the debt, the greater the property and business taxes to service the debt, and the less attractive the community as a place in which to reside and invest." p. 155

Fred G. McNally, et al, Report of the Royal Commission on Metropolitan Development of Calgary and Edmonton, Government of Alberta, Edmonton, 1956.

- The mandate of this Royal Commission report was to review the administration and financing of school and municipal services in Calgary and Edmonton, and surrounding areas. They solicited the views and opinions of the general public and interested government and private business organizations. The primary focus was to determine the form of local government which would "most adequately and equitably provide for the orderly development of school and municipal services." (p. IV)

- The Commission presented their findings beginning with a review of the metropolitan areas and their problems, which for our purposes, included a commentary on joint planning:

> "It is common-place that what happens within one part of a metropolitan area, or even of the wider reion, may have profound effects upon another part. For that reason, if for no other, joint action is required, and this in turn requires joint planning beforehand if the area is to be developed in an orderly manner. Orderly development - that is, planned development - is one of the specific subjects which the Commission has been directed to investigate. The planning aspect of development was treated at great length before the Commission, and several difficult questions were raised. How can a common plan for the whole area be made effective? How should the plans of the different municipal jurisdictions be co-ordinated? Should development and subdivision be encouraged in one geographical direction rather than another? What executive authority, if any should be put in the hands of a district planning organization?" (p. 1.4)

- It is important to keep the McNally report in perspective in terms of its relevance to the fringe discussions that are presently underway (i.e. country residential development, consequent fragmentation of land tenure problems, etc.). For this reason the following quote is included:

> "It is apparent from the evidence that lack of adequate housing accommodation and adequate financing therefore in the two cities for the lower-

> income groups since the second world war have been contributing factors in the creation of fringe areas. In this setting then, the problem is twofold - financing the purchase of low-cost housing and financing the building of rental accommodation." (p. 4.20)

° The problems in the "fringe" communities of Calgary during the 1950's related more to the development of substandard housing in concentrated areas (i.e. Forest Lawn, Montgomery, Bowness, etc.), and the problems this posed for the City in their outward expansion. Nevertheless the report concludes in the summary of the fringe problems that:

> "...no solution for the existing fringes is possible if the fringe communities are forced to rely on their own efforts and the resources within their boundaries. The fringes are essentially metropolitan problems and can only be dealt with effectively on an area basis. Since population growth is likely to continue in each metropolitan area, the prevention and control of future fringes should likewise be subject to area-wide treatment, in the interests of the residents in the whole area." (p. 4.28)

° Regarding the use of planning controls at the city boundaries, the Royal Commission stated that:

> "If this trend of development is to be guided in the best interests of the whole area it is clear that it must be under co-ordinated planning control. Even if the city boundaries coincided with those of the built-up or urbanized area - which they do not at present - there would still be the problem of control of land use, of subdivision and building, and of ribbon development, just outside the city limits." (p. 5.36)

Furthermore:

> "There is no doubt that land which may be needed for urban purposes in the future is more easily controlled by the city if that land is within the city. There is then no division of authority among several municipal governments. The cities have the technical staffs and the experience in planning. If the land is inside the city, law and accepted practice inhibit any demands for compensation for land use zoning. Moreover, the

> cities have a policy of not releasing land for building unless sewer and water facilities are available, i.e. orderly development is the rule. For these, and other reasons, the argument is strong that for future expansion - even though it may not be needed for 15 years or so - it is best brought within the city. But the argument is not exhaustive. There may be something anomalous about city management of large areas of agricultural land. Even more important is the fact that, wherever the city limits are drawn, the problem of land use control outside those limits still remains. A large city, in terms of geographical area, is no answer to the problems of regional planning. It does not avoid the need for inter-municipal co-ordination of planning in the whole area." (p. 5.37)

The Report follows with a presentation of some of the methods available for joint or inter-municipal planning.

13. METHODS OF JOINT OR INTER-MUNICIPAL PLANNING.

Regardless of whether the city is limited for a time to an optimum size or not, certain planning problems of a metropolitan and regional nature will remain. There is still the over-riding problem of land use control outside the city so that fringe development may be forestalled, or so that any other development which is not in the best interests of future city expansion may not take place. That is to say, whether the city limits are drawn at an optimum or not, the city will still have limits, and land use control just outside those limits will still remain a problem.

This in turn reduces itself mainly to a problem of zoning for land use, of subdivision controls, and of their enforcement. Industrial location within the metropolitan area may be regarded as a special case of zoning for land use. There will also remain the problem of planning the location of area roads, including ring roads, and of keeping them free from ribbon build-up.

These problems, of how to make planning effective in the metropolitan area and the region, arise because more than one municipal jurisdiction is involved. It may be put thus: how is an area plan to be made effective by adoption and enforcement, where municipal jurisdiction in the area is divided among a number of local authorities?

(a) The Voluntary Method.

Traditionally a partial answer has been given by joint over-all planning of an essential voluntary nature, even if the membership itself is mandatory. The voluntary type is the common one in Canada in areas of divided municipal jurisdiction. It may be seen in the Vancouver and Victoria metropolitan areas, in Winnipeg, in more than thirty areas in Ontario, in many other parts of the country where metropolitan planning is a recognized need, and in five Alberta districts - those of Medicine Hat, Lethbridge, Red Deer, Calgary and Edmonton.

In Alberta, the voluntary principle is carried so far as to apply even to membership in the District Planning Commissions. But where a municipal member can withdraw at will from the Commission, and where a council can choose at any time to alter its zoning regulations as it thinks fit, obviously there can be no possible guarantee that a district general plan will be either adopted or carried through. At the most it can remain a recommendation, which some councils may follow and others may not. Even mandatory membership, in itself is no guarantee that the plan can or will be carried out.

Despite its defects, the voluntary method is no doubt a step forward. It is better to have an area plan, even if it is disregarded here and there, than to have no plan at all. Moreover, the voluntary planning commissions do fulfill a number of other useful functions. They provide valuable advisory and technical services to their members, they accustom the public to the ideas of planning, they draw the attention of public and councils to problems of concern to the whole area and so help to promote a common, as distinct from a sectional point of view.

They have not the legal power, however, to enforce any of the plans which they draw up. Nor has any other body authority, under the present legislation to enforce a district general plan. But if the plan is to be carried through, somewhere the voluntary principle of enforcement by separate councils must give way. In the opinion of the Commission, therefore, the time has come to amend the legislation so as to authorize enforcement of a district general plan. Over and over again, in evidence before this Commission, witnesses urged that the area plans should "have teeth in them", or that "executive authority" be provided to enforce the plan. There was far less agreement however on what kind of "teeth" or "executive authority" should be provided.

(b) Granting Extra-Territorial Powers to the City.

If the lack of executive authority to enforce a district general plan is recognized as a defect, there are several methods available to remedy it, at least as far as the metropolitan part of the plan goes. The first of these is to grant extra-territorial planning powers to the city.

This method is often found in the United States, but the outstanding example of its use in Canada is found in Toronto. The Toronto Metropolitan Council comprises thirteen municipalities, but the Metropolitan Planning Board has authority over a wider area than the Council itself: an area which includes another thirteen municipalities or portions thereof, outside, or twenty-six in all. The extent of the planning area is some 800 square miles, which is nearly three times that of the Council, of about 240 square miles, and it extends in some directions up to 7 or 8 miles from metropolitan Toronto itself. The Metropolitan Planning Board itself is appointed by the Metropolitan Council and was set up inter alia to forestall and control fringe development. At present it is preparing an official area plan, which includes land uses, roads, sanitation, greenbelts and park areas, and public transport.

The Metropolitan Council is thus the designated municipality charged with preparing the official plan for the designated planning area. It need be adopted only by the Metropolitan Council and approved by the Minister to be binding on the entire planning area, although before the Minister gives his approval he refers the plan to other municipal councils for their comments. Changes in the plan may later be initiated by any council, or by a person through a council, in the planning area, and the Minister may refuse or sanction the request for a change, or may pass the request to the Ontario Municipal Board for determination .

The designated municipality alone (in this case the Metropolitan Council of Toronto) may pass planning by-laws to cover the whole planning area, and other municipalities affected may pass their own by-laws, providing they do not conflict with the official plan.

If the principles of the Ontario legislation were to be adopted in Alberta, each of the two cities would become a designated municipality, charged with preparing an official plan for the city and an area, say, several miles around the city. The plan, when referred to all of the councils concerned, would be declared by the Minister to be the official plan for the area. The Edmonton (or Calgary) city council would then pass planning by-laws for the whole planning area. In the subsequent alteration of the plan, the Minister, at his discretion, could refer the matter to a board for determination. The nearest thing to such a board in Alberta is the Board of Public Utility Commissioners which already has a number of municipal functions.

Some criticism has already been levelled at the Toronto Metropolitan Planning Board in that its geographical jurisdiction is not extensive enough.

It has no power over what may be called the wider region - but is confined to Metropolitan Toronto and the urban, or nearly urban, outskirts.

On the whole it seems unrealistic to grant planning authority to any city, for distances of up to fifty miles from its boundaries, and such would be the distances involved, if the planning area for Edmonton and Calgary coincided with membership in the District Planning Commissions. And if the extra-territorial limits were confined, as in Toronto, to the smaller metropolitan area, then the problems of land zoning, etc., further out would still remain, and it would solve none of the problems of regional planning.

Objection may also be raised to the principle of such unilateral control: the municipalities and persons outside of the city may properly request a more active share in shaping the decisions which vitally affect them. Jealousy, friction, and the provoking of the historic and unfortunate town versus country conflict, may be the inevitable consequences of extra-territorial planning powers. Moreover, the tradition of co-operative planning through the District Planning Commissions is already well-established in Alberta. Finally the District Planning Commissions have their own technical staffs who should be more familiar with regional problems than city staff. Largely for these reasons, this Commission is of the opinion that the method of granting extra-territorial planning powers to the cities is not one to be recommended. Moreover, the weight of evidence before this Commission is against such a course. Nor does it appear appropriate for the province to prepare and enforce general plans for metropolitan and regional areas.

- End of Extract; McNally

Finally, the Royal Commission provided a summary of their recommendations. The planning related recommendations are listed below for the reader's information:

CHAPTER 17. SUMMARY OF RECOMMENDATIONS.

CHAPTERS 1 TO 3 INCLUSIVE

(These chapters contain no recommendations, and consist entirely of factual and descriptive material.)

CHAPTER 4. NATURE AND PROBLEMS OF THE FRINGE COMMUNITIES

1. That in the event that city boundaries are greatly enlarged, subject to the proviso that at least sewer and water are provided, some relaxing of the city building codes, in appropriate zones, is preferable to having new fringe development outside the enlarged city limits. Such a step would be the lesser of two evils.

CHAPTER 5. PLANNING IN THE CITIES, THE METROPOLITAN AREAS AND THE REGIONS

1. That the present law in respect to payment of compensation in the green-belt should remain unchanged.

2. That membership by municipalities in the District Planning Commission should be mandatory, and should not be subject to voluntary withdrawal.

3. That Section 10 of The Town and Rural Planning Act, 1953, be amended to provide that a district planning authority may be established on the initiative of the Lieutenant Governor in Council.

4. That the cities of Calgary and Edmonton should each have three representatives on the district planning authority and each other member municipality should have one representative. Each representative should be an elected councillor. There should be no change in the present method of determining representation appointed by the Provincial Planning Advisory Board.

5. That the district authority in the Edmonton area should include the City of Edmonton; the towns of Jasper Place, Beverly, Fort Saskatchewan, St. Albert, Morinville, Leduc, Devon, and Stony Plain; the villages of Calmar, Thorsby and Warburg; and the municipal districts of Stony Plain, Sturgeon River, Leduc and Strathcona. (Should amalgamation take place, representation for Jasper Place and Beverly would lapse.)

6. That the district authority in the Calgary area should include the City of Calgary; the towns of Bowness, Forest Lawn, High River, and Okotoks; the villages of Cayley, Black Diamond, Turner Valley, Blackie, Crossfield, Airdrie, Beiseker, Irricana, and Cochrane; the municipal districts of Calgary and Foothills; and Local Improvement District No. 46 (now the hamlet of Montgomery), and Local Improvement District No. 946. (Should amalgamation take place, representation for Bowness, Forest Lawn, and Local Improvement District No. 46 would lapse.)

7. That the technical staff of the district planning authority in the Calgary area be separated from the city planning staff.

8. That the district planning authority be directed to prepare and adopt a district general plan for the area, in respect to those matters which are essential to the orderly development of the region. The district general plan shall be deemed to be adopted when approved by two-thirds of the representatives present and voting; its principal features must be advertised and provision be made for property owners and others interested to make representations. Provision is made for the plan to be confirmed and for a right of appeal. The plan will be deemed to have come into effect thereafter upon receiving the approval of the Minister, or of the Board if the Minister elects to refer the matter to the Board.

9. That pending the district general plan being brought into effect provision should be made for interim development control.

10. That upon the district general plan being approved each municipality should enact the by-laws necessary to give effect to its share of the plan. The district authority or any member municipality is given a right of appeal against any by-law implementing the district general plan.

A member municipality or the district authority should have the right to submit amendments to the district general plan from time to time, subject to a right of appeal.

Property owners or others interested may request the district authority to amend the district general plan, subject to a right of appeal.

11. That the Provincial Planning Advisory Board should act as the final appeal body. The present Board should be enlarged from three to five members, and serious consideration should be given to having two persons on the Board who are not permanent members of the Civil Service. A Minister of the Crown should not be a member of the Board. At least three members should adjudicate every appeal.

All appeals should be determined at public hearings held in the metropolitan area concerned after being duly advertised.

12. That the reconstituted Board have jurisdiction on appeal or on application by a member municipality or the district authority to settle the content of any district general plan and the by-laws; to decide if the general plan or by-laws (of the local authority) conform to the district general plan; to determine if a public work or by-law proposed conforms to the district general plan; and to determine whether or not a member municipality is conforming to, enforcing or administering the provisions of the district general plan or its by-laws.

13. That the Board hear appeals from property owners and others interested, and incidental thereto may settle the content of any district general plan or the by-laws enforcing it. The Board should have authority to order any member municipality to conform to the district general plan and to order the suspension of any local general plan or by-law which conflicts with the district general plan. The decision of the Board should be final and binding upon all parties.

14. That before the routes of highways or any changes in the same are decided upon, close consultation should take place between the province, the city, and the district planning authority in the area concerned.

15. That the Department of Highways, before granting a permit authorizing development within 2,000 feet of a controlled highway, require the applicant to file a permit showing such development has been approved by the municipality. In addition, the district planning authority should receive notice of all applications, and should have a right of appeal to the Board in the event it disagrees with the decision of the municipality. In cases where a permit is refused the applicant by a municipality, the applicant should have a right of appeal to the Board.

16. That the Department of Highways adopt further special regulations in respect to development on controlled highways within the area of a district planning authority to assist in the carrying out of the district general plan.

17. That the subdivision regulations be amended so that any city, town or village must receive notice of a proposed subdivision within two miles of its boundaries.

(pp. 17.1 to 17.2)

Robinson, I.M. **Canadian Urban Growth Trends: Implications for a National Settlement Policy.** **The Centre for Human Settlements, Human Settlement Issues 5. Vancouver: University of British Columbia Press, 1981.**

This book deals with trends in urban population growth in Canada in the late 1970's. It also presents arguments for adoption of federal settlement policies. The following are quotations from those parts of the book that touch on issues of urban sprawl and fragmentation.

> "The amenities and lifestyle opportunities of smaller towns and rural areas appear to be especially attractive to three specific groups of people: (a) retirees and persons approaching retirement age; (b) young families who have become fed up with the deteriorating social and physical environment in large cities and are relocating in search of privacy and desire to avoid the problems associated with urban life; (c) individuals and families who want to experiment with more radical lifestyles, in agrarian communities or some form of co-operative living."
>
> "A large number of small towns and rural areas are experiencing growth because they offer in-migrants and existing residents, not immediate employment but special lifestyle and amenity opportunities. This is a new phenomenon in community and regional growth and is termed by Goldberg and Webster the "people-first" approach, or the "supply-based model of development", in contrast to the traditional model."
>
> "Attitudes to the use and control of urban land. These can range from the current attitude, which essentially views land as a commodity to be exploited, to one where urban (and agricultural) land is seen as a resource to be used and conserved for the best interests of the community as a whole. These different attitudes toward the use and control of urban land are also reflected in different feelings about land ownership and the basic question of property rights, that is, whether these are inexorably individualistic or whether land is seen as a public good in the broadest meaning of that term. These different attitudes are often reflected in such specific issues as the extent of public ownership of land by local municipalities or the rights of localities to restrict or control urban encroachment on prime agricultural land."

"Specifically, the emerging settlement pattern to the end of this century should be marked by the following growth situations:

1. continued growth of certain small and medium sized metropolitan areas, for example, those located in provinces and/or regions where economic growth is based primarily on expansion of energy resources (Calgary, Vancouver, St. John's, etc.), as well as the provincial and federal capitals (Edmonton, Victoria, Ottawa-Hull, etc.);

2. continued slowdown of growth in the largest metropolitan areas, urban centres, and central cities;

3. zero growth and, in some instances, actual decline of certain metropolitan areas, central cities, and many small towns and rural centres, the latter by-passed because of being poorly located in relation to modern means of transportation;

4. rapid growth of a large number of small to medium sized cities and towns (including new towns) that are strategically located, so as: (a) to house and service the workers and their families employed in nearby natural resource developments, especially energy resources; or (b) to serve as regional service centres for resource develpments; or (c) to receive some decentralized economic activity (either private or public); or (d) to serve as diversified and integrated urban nodes for deconcentrated regional development programmes."

"As a rule, the revenues which the increased population bring to the town are far less than the expenditures required to meet the needs induced by the newcomers. The result inevitably is rising tax rates, which causes a burden to and resentment from resients who are not as well off as the newcomers - particularly the elderly and other disadvantaged segments of the town population."

Smit, B. "On the Need for Integrated Land Use Analysis and Planning", in The Rural-Urban Fringe: Canadian Perspectives. Beesley and Russwurm, ed. Downsview, Ontario: Department of Geography, York University, 1981. pp. 393-400.

"This paper argues that there is a danger of important public interests being neglected in the land planning system unless a) research is also directed at more general societal concerns and their implications for local areas, and b) these broad public interests are somehow incorporated into the planning process. Thus, the principal purpose of this paper is to demonstrate the need for integrated land use analysis. Some suggestions are also offered for an approach to addressing this need, and to providing information for integrated land use planning."

"Land use planning requires that each possible use for land be evaluated relative to all other uses. Since the competing uses may be agricultural, resource-based, urban, recreational, or conservation-based, the evaluation procedure must consider and weigh all of these diverse uses. For any given parcel of land, identifying the most important use will depend upon local, regional and national goals or requirements from the land (over both the short and long term), the land's location and capability for potential uses, and the location and capability and quantity of other land areas. The goals or requirements from the use of land may include food and fibre production, limitations on the consumption of non-renewable resources such as fuel, provision of housing and recreation spaces, and requirements or limitations related to other activities and resources."

"The concept of land use evaluation derives from the premise that the "value" or "importance" of any aspect of the land resource can be measured from a comprehensive assessment of all factors involved. Whether it is especially important that certain land areas be retained for, or allocated to particular land uses depends upon the physical, technological, and socio-economic conditions that exist, and upon society's objectives or requirements for the use of the land resource (Smith et al., 1979).

The Land Evaluation Model (LEM) developed by an interdisciplinary team at the University of Guelph, is a synthetisizing tool that integrates diverse information about land: its capability for certain uses, its availability, goals and needs related to it, and non-land resources. By considering these simultaneously, the evaluation method can indicate the strategic importance of certain uses for certain land areas within a framework of stated national goals or provincial land use objectives."

City of Calgary, An Overview of Calgary's Uni-City Form of Government, Planning and Building Department, November, 1986 (unadopted by Council).

The following excerpts provide an explanation, from the City of Calgary's perspective, of the advantages of a uni-city form of government over other types. Some of the principles underlying the uni-city concept and why this form of municipal government should continue to be supported in the Calgary Region are also presented.

> "The City of Calgary has long enjoyed the benefits associated with a uni-city form of government whereby the entire urbanized metropolitan area falls within the jurisdiction of one municipal council. This is in sharp contrast to the majority of major North American cities where a fragmented system of local government exists or where, at best, a metropolitan or regional level of local government has been created in an effort to co-ordinate some of the more important municipal activities."
>
> "...The most concise and all encompassing justification of uni-city can be found in the 1956 Report of the Royal Commission on the Metropolitan Development of Calgary and Edmonton. It states:
>
> > "The crippling effects seen in most metropolitan areas are characterized by a maze of local governments, Boards of Education, and Commissions admistering various municipal services with none responsible to the other and a lack of integrated effort on behalf of the total metrpolitan area despite its economic oneness. Population has spread all over the countryside around large cities with utter disregard for existing political boundaries; tax structures are completely out of balance; health and educational standards vary to a marked degree in homes which may be only across the road from one another; water and sewerage facilities may be ample in one portion of the community and completely lacking a short distance away, with health jeopardized through numerous wells and septic tanks operating in dangerous proximity; lack of planning and cohesion in the area with respect to highway policy has all but brought traffic to a stand-still; and superimposed on this conglomerate structure is a labyrinth of local authorities competing with one another and building up a cost of government for the total area that is out of all proportion to the services

> rendered. As the flight of population continues from the large central city to suburban areas, those who remain in the central city are left to bear the heavy cost of the redevelopment that must take place.""

"Other major Canadian cities (e.g. Vancouver, Victoria, Edmonton, Toronto, Montreal, Quebec City) continue to experience a highly fragmented form of local government. Their problems are well known. In a recent article in a magazine published by the City of Toronto Planning and Development Department, Professor Larry S. Bourne offered a number of comments on the Metro Toronto situation:

> "This fragmentation of a functional entity leads to numerous examples of inertia, duplication and inefficiency..."
>
> "Within Metro, fragmentation, political rivalry and local self-interest have produced the seriously flawed Network 2011 plan. Here, granting each municipality part of a new transit line produces in aggregate a system which makes no sense at all, and which compounds earlier mistakes."
>
> (Larry S. Bourne, "Perspectives on Planning in the Toronto Region", City Planning Magazine, Fall, 1986, pp. 54-56)."

Other examples of problems encountered in other metropolitan areas of Canada are given including:

"° The Greater Vancouver Regional District experienced difficulties in implementing its "Liveable Region" plan due to the varying interests, objectives and degrees of support of its member municipalities. Furthermore, the inability of the municipalities in the Vancouver area to resolve an L.R.T. alignment led to the Provincial Government's unilateral decision to take over the L.R.T. project.

° Wide variations in the tax base continue to exist in the Edmonton area where the great bulk of the heavy industrial uses continue to be located in a rural municipality.

° Quebec City is facing serious problems of population and business loss to surburban municipalities. Because of the unique historical importance of the core city, programs to attract new businesses and residents have severe limitations. At the same time, the city has to bear the bulk of the costs associated with protecting the community's historical resources."

Calgary's submission goes on to outline two overriding and fundamental principles of the Uni-City concept as expressed in the 1956 McNally Report:

"(a) It is unjust and inequitable that wide variations in the tax base should exist among the local governing bodies that comprise a metropolitan area where that area is in fact one economic and social unit.

(b) A metropolitan area which is in fact one economic and social unit can ordinarily be more efficiently and effectively governed by one central municipal authority, than by a multiplicity of local governing bodies."

(Report of the Royal Commission Chapter 12, p. 5).

Other key principles established by the Commission are:

"(a) When industrial growth has taken place immediately adjoining or in close proximity to the boundaries of the City, the proper and best-suited municipal unit to govern and control such growth is the city.

(b) ...where industry has established itself to a substantial extent immediately adjoining the boundaries of the city and the workers in such industry and their families reside within the city, the taxes from such industry should be collected by the city which is called upon to furnish the educational and numerous municipal services arising from the residence of the workers.

(c) ...the city is entitled to growing space, and to have this space it is necessary that its boundaries should expand into rural municipalities.

(d) ...where the area immediately adjoining the city has taken on strong urban characteristics it should be under the aegis of the City Planning Department in preference to a rural municipal council."

(Report of the Royal Commission, Chapter 12, pp. 24-34)."

The Calgary submission concludes by suggesting that the uni-city system has tremendous advantages over other forms of government organization including the following:

"° Transportation decisions throughout the city are taken in a co-ordinated manner; there are not the problems, for example, of suburban travellers finding that their standard of roadway deteriorates greatly when the boundary of the central city is reached.

° Problems reflecting the divergent interests of surburban and inner city residents are dealt with by the same administration and council, where a balance of views is present and acceptable compromises can be achieved.

° Underground services are provided on an equitable and consistent basis throughout the municipality; wells and septic tanks are things of the past.

° Only one fire chief is needed; one police chief; one municipal engineer.

° Social programs are paid for by the entire municipality, not just by the communities experiencing the problems.

° There are no discriminatory housing policies.

° Tax revenues from industries and businesses serve the entire municipality, not just portions of it.

° There is not the duplication of services and inefficiency of government associated with fragmentation.

In short, the uni-city principles have led to a form of local government that is effient, equitable and sensitive to the needs of residents and businesses alike. Not only have these principles provided an effective structure for managing the urban system on a day-to-day basis but also, because of conditions and pressures outside the city, they have provided an effective approach for managing the very long-term requirements for urban growth."

2.0 COST/REVENUE STUDIES

Peter Fisher. __Iowa Land Use Research: Land Use Controls and the Costs of Urban Fringe Development.__ **The Institute of Urban and Regional Research, University of Iowa. 1980.**

- Report deals with uncontolled development on the fringes of urban areas. He investigates the environmental, economic and social impacts of development patterns around Iowa cities. He estimates the relative magnitudes of the more significant costs and identifies which costs might be charged to the beneficiaries of development. Moreover, he has recommended alternative means of dealing with the environmental, social and public sector impacts. He details eight policy options to reduce public sector costs of sprawl development. p. ii.

  __Presumption:__ government interference with the choice of residential locations should be minimized, but that city and county residents at large should not be expected to pay higher taxes or suffer the costs of environmental degradation as a result of the location of fringe residents." p. iii.

  __Conclusions of the report__:

  (1) A system of land use controls that severely reduces the supply of developable land around an urban area in order to force compact, contiguous development is very likely to produce substantial increases in land and housing costs within the developable urban area.

  (2) Environmental impacts, particularly those relating to water quality and to land use (consumption of prime farm land and environmentally sensitive and valuable lands), are potentially quite serious at the localized level, and perhaps the state level as well. State policy options to deal with these problems include: (a) additional enabling legislation so that cities and counties have the flexible tools required to control environmental costs; (b) mandatory local planning that encompasses environmental protection, and (c) regulation of certain practices or types of land use at the state level.

(3) The little information available on social impacts indicates that farm/non-farm conflicts intensify once non-farm development reaches a certain magnitude. While this "threshold" may have been surpassed in only the largest metropolitan areas, the pace of rural development suggests that problems in other localities may arise or intensify in the not-too-distance future. It would make sense to plan now to minimize future conflict.

(4) The evidence on the public sector costs of fringe development shows that the subsidies to leapfrog subdivisions can be very substantial. Residents of non-contiguous developments rarely pay the full incremental cost of providing public facilities and services; instead, they pay only the same average cost as other city taxpayers. Since it is more costly to serve outlying areas, leapfrog development raises average costs. All city residents end up paying more for services. Land use controls could be used to enforce more compact development, thereby reducing the public service costs of sprawl. An alternative and less stringent policy could also be chosen: the reform of urban service pricing practices. This would provide the incentive for compact development and would eliminate the public subsidies to fringe residents. State policy options in this area include: (a) additional enabling legislation expressly granting cities and counties broader powers to employ special assessments and other pricing devices; (b) provision of information to local governments on the use of service pricing to influence land use patterns and distribute costs more equitably; (c) incentives or requirements for local adoption of certain taxing and pricing policies.

(5) No one policy can be effective in dealing with all the public costs of sprawl. Broad land use controls, such as low density rural zoning or exclusive agricultural zones, will do little to recoup certain costs, and may aggravate other problems if relied on exclusively. A co-ordinated set of policies and programs, each aimed at a special problem, is required.

A. Costs of Sprawl

- ° higher energy consumption
- ° problems with water supply and water pollution
- ° higher public service costs
- ° reduced viability of agriculture
- ° loss of valuable recreational and open space land
- ° social problems created by conflicting life styles

- problem is that a substantial share of such costs are borne by the city and county residents at large; therefore, they have a legitimate interest in influencing the pattern of development to reduce inefficiencies and inequities. p. 1 (subsidized rural non-farm development)

- there is a desire and demand for the amenities of rural living - fastest growing segment of population is the rural non-farm population.

- impacts of sprawl development

  (a) private market impacts - effect of development patterns on land and housing prices
  (b) environmental and social impacts - pollution, life-style conflicts
  (c) public sector impacts - efficiency impacts include both the benefits of public services and the costs of providing them under alternative development patterns.

This report deals with (c) above.

B. Public Sector Impacts

(a) fixed network services (city utilities, road construction and maintenance)

- ° characterized by a substantial capital investment in a fixed distribution network - pipes, wires, pavement. The cost of constructing or extending this network is sensitive to development patterns. p. 3

(b) mobile network services - service is delivered to residences, but capital employed in the distribution system is mostly on wheels. Labour and operating costs represent the large share of total costs (police, fire, ambulance, street cleaning, transit systems and school bussing).

- ° these services are sensitive to development patterns in that i.e. low population density and leapfrog development increase the network mileage - relative to more compact development. p. 3. Mobile network services also require central facilities and sub-stations - these costs may also be affected by development patterns.

(c) fixed facility services - absence of any distribution network, fixed or mobile. The service is provided at fixed locations and resident must travel to the facility (libraries, parks, hospitals, schools and certain social services). Where neighbourhood facilities, costs may be influenced by population density or dispersion. p. 4

Questions of Study

- ° How can various policies (land use regulation, utility pricing, etc.) affect the pattern of development?
- ° How do alternative development patterns compare in terms of public costs?
- ° Study compared the total public costs under two alternative development patterns.

  (a) typical metro pattern with generally unrestrictive policies regarding rural and urban fringe development

  (b) a more compact hypothesized pattern that would result from more stringent land use controls

Objective - to estimate the difference in public costs associated with each development pattern.

C. Patterns of Fringe Development in Iowa

- 'urban splatter' dominant form of metro area growth

D. Impacts on Private Markets

- number of case studies conclude that "increase in land prices is significantly related to the restrictiveness of the land use policy in the urban hinterland" p. 15.
  - to avoid any appreciable impact on land prices, a large pool of developable land must be available relative to the annual demand. p. 15.

    Unless public land banking, public authorities would have to zone for development a land area sufficiently large for developers to have little difficulty in finding landowners willing to sell at existing (pre-zoning) market prices
- examples available to illustrate the potential impact of growth controls on land prices. p. 16.
- some evidence that higher land costs come to be reflected in higher cost-of-living index, wages, etc.

E. Environmental and Social Impacts

- This section identifies the environmental and social impacts that have accompanied fringe developments in the past, based on existing studies.

(a) water problems
- quality and supply
- pollution
- soil erosion
- depletion of aquifers

- There is no necessary reason why rural systems for water, sewer and stormwater management need be any more detrimental to the environment than their urban counterparts, under the right conditions.

- Problem here is regulation and absence of it and information on extent of water problems - protection of groundwater aquifers may be critical.

- Nitrate contamination of groundwater may occur and be a problem when development of rural and fringe areas brings increasing numbers of non-farm residents into close proximity with established agricultural operations. p. 22.

- Problems caused by absence of land use controls and environmental regulations.

(b) air pollution and energy consumption

  - resulting from automobile travel when development occurs at lower densities
  - result is greater auto mileage driven, greater emissions and greater fuel consumption
  - but dispersed settlement patterns may reduce negative air quality impacts

(c) land use impacts

  - development represents an irreversible and irretrievable commitment of resources
  - scattered development tends to have a greater impact on farming. Farming becomes less viable as parcels of farmland become smaller and more isolated and the intermingling of non-farm residents increases. These effects are economic and social in nature. p. 23.

(d) social impacts

- conflicts between farming activities vs. non-farm residences re: farming operations, traffic congestion, crime, etc.

- shifts in political power as non-farm population outstrips rural population - consequences in terms of services and resulting taxes to farmers.

- loss of 'ruralness' image.

- concentration of development in smaller number of larger subdivisions could reduce potential conflict

F. Public Sector Impacts

(a) Fixed network services

- The cost of constructing or extending a fixed network is clearly sensitive to development patterns. In general, it would seem that a given population could be serviced at a lower cost the more compactly that population is distributed (i.e., the greater the population density). However, costs are a function not only of network length (e.g. miles of pipe) but also flow capacity (e.g. pipe diameter). Higher density development will require fewer miles of larger pipe (or fewer miles of wider streets).

(i) Statistical studies:

- A number of statistical studies have been performed in an attempt to measure the effect of population density on municipal service costs. These studies suffer from a variety of deficiencies, such as failure to separate demand and cost factors, reliance on budgetary expenditure data to represent actual costs, and use of gross population density (people per square mile within some arbitrarily defined metropolitan area) (Downing and Gustely, 1977, p. 64).

- Thus one must examine separately the cost of constructing service networks within a subdivision and cost of constructing service lines (trunk sewers, arterial roads) to a subdivision. p. 29.

- This distinction between density-related costs and distance-related costs is important for developing policies, i.e.

  - costs within a new development can be charged to the developer
  - costs to a subdivision frequently become public costs - financed out of general revenues

(ii) Engineering studies:

The Costs of Sprawl (1974)

Summary of Study:

For the community cost analysis, six prototype communities were constructed, each occupying 6,000 acres and containing 33,000 persons. The most relevant prototypes for our purposes are the "low density planned" community (with 75% clustered single-family homes and 25% conventional) and the "low density sprawl" community (where the percentages are reversed). The two communities differed not only in the types of neighborhoods (clustered versus conventional) but also in the spatial distribution of neighborhoods, so that cost differences are attributable both to neighborhood housing density and to the distance between neighborhoods. The sprawl community included much leapfrog development, with the result that utility networks crossed vacant land. It was also assumed that the city would build excess capacity wherever leapfrogging occurred in anticipation of future in-fill development. It was assumed that the provision of such excess capacity is not as necessary with planned, contiguous development. The results showed that road costs in the planned community were 89% of costs in the sprawl community, while capital costs of utilities were 77% (Real Estate Research Corp., 1974, pp. 97-98).

Downing and Gustely (1977) reworked data in The Costs of Sprawl in order to more clearly separate costs attributable to density within neighbourhoods from costs attributable to distance. p. 31.

Findings:

The capital cost of providing the water supply network within a subdivision of 1,000 homes on one acre lots was found to be about 4 1/2 times the cost for the same number of homes built five to the acre. A similar differential was found for the storm sewer system, while for sanitary sewers the large lots were about 3 1/2 times as costly.

The distance-related capital costs were calculated on a per-mile basis by Downing and Gustely. The cost of extending a water main to a subdivision of 1,000 dwelling units was estimated at about $21,560 per mile, while the cost of a sanitary sewer main was about $12,180 per mile. It should be noted that these are 1973 cost figures, and that costs of installing water and sewer lines can vary substantially depending on soils and topography. Trenching costs account for a major share of installation costs; assuming gravity flow for both water and sewer, the maintenance of proper slope of the line will require much higher trenching costs when the terrain is either too flat or too steeply sloping (Tabors, Shapiro, and Rogers, 1976).

For illustrative purposes, let us consider a new subdivision being built within the corporate boundaries of a city but located 3,000 feet from an existing development served by city utilities. The subdivision will contain 30 homes and will require extension of a 6" water main and an 8" sanitary sewer from the existing development. The cost of extending these two utilities 3,000 feet would total $78,930 using the average cost figures above. This amounts to about $2,600 per home. Clearly, failure of a city to charge these extension costs to the developer or the homeowners can result in very sizable subsidies to fringe residents at the expense of city taxpayers generally. The longer the distance and the smaller the subdivision, the greater the subsidy per household. (The 6" water main and 8" sewer are minimum sizes; thus total costs will be the same for one home or several hundred homes until the point is reached where larger capacity pipe is needed.)

(iii) Road costs:

° The relation between development patterns and costs of road construction and maintenance is more difficult to determine. It is also more difficult to charge developers for road costs other than the cost of installing streets within the subdivision. Arterial roads serving that subdivision will generally serve other areas as well, so it is difficult to determine what share of costs of arterials can appropriately be allocated to particular developments. This problem does not arise in the case of utilities where users are readily identifiable. Thus a large portion of the highway network will have to be constructed at general public expense. Maintenance costs of all roads, including streets within subdivisions, also become a public cost (with the exception of roads maintained by homeowners' associations in rural areas).

° There is conflicting evidence on the relation between settlement patterns and road costs. The Costs of Sprawl estimated very sizeable savings in road construction costs at the neighborhood level with higher density development. While construction costs would typically be borne by the subdivision, the large increase in street mileage required for conventional single-family development will produce much higher road maintenance costs borne by the general public when the streets are dedicated to the city.

° It is not clear that these results can be generalized to the metropolitan level. Muller and Peterson (1977) summarize the results of two major studies of urban form and road costs. Both found that a high density, centralized city would actually encounter higher total road costs than a city with both jobs and population more decentralized in typical sprawl fashion. This is because high density creates substantial congestion requiring wider highways and more expensive interchanges, which more than offset the savings from lower road mileage. Land costs are also much higher in more densely populated areas, and roads consume large quantities of land. This is another factor distinguishing utility networks from road networks.

° The relevant issue in most metropolitan areas in Iowa, however, is to determine where on the fringe or in rural areas new development will occur. Contiguous or in-fill development may well take advantage of existing uncongested roads, which then become more fully utilized. On the other hand, leapfrog development could require improvements to existing roads or construction of new roads thereby adding highway mileage and creating additional excess capacity. p. 34.

To illustrate the potential magnitude of the costs involved, let us consider a subdivision of 100 homes located on an existing gravel road one mile from a paved state highway leading into the downtown area. Existing development in the area is sparse, and the state highway is not heavily traveled at this distance from the city. These 100 homes would probably generate 600 to 800 trips per day, based on studies in other areas and in Johnson County. These traffic levels alone would probably be sufficient to require paving of the gravel road, even if existing farm

> traffic were very light. The total cost of grading and paving one mile of gravel road would be in the neighborhood of $120,000 or $1,200 per home in the subdivision.
>
> This one stretch of new paved road would be able to accommodate substantial additional traffic without being widened, so that excess capacity is created. If the development had located along the state highway, where excess capacity already exists, no new construction costs would have been incurred. p. 35.

(b) Mobile Network Services

- demand-response and fixed route services

For demand-responsive services, the costs of providing service to a new fringe development can be estimated only probabilistically. That is, annual costs of dispatching vehicles to the development can be estimated by multiplying the expected annual frequency of calls, given the type of development, times the distance from the nearest facility (fire station, hospital, etc.). For fixed-route services, costs are more predictable. A new development will add a certain number of miles to the network that must be traversed by service vehicles.

Expansion of the service network can increase three components of costs. First, new facilities may be required if new fringe development is to be provided the same level of service as existing neighborhoods. However, this is generally an issue only with respect to fire protection and ambulance service. New substations may be required if a standard maximum response time is not to be exceeded. Second, new vehicles may be required if the entire expanded network is to be traversed in the same period of time (in the case of fixed-route services), or if the probability of excess-demand for vehicles is to be kept low (more ambulance calls at one time than there are ambulances, for example). Third, whether or not additional vehicles are required, labor, fuel, and other operating costs will increase if the service network expands.

The estimation of the impacts of alternative development patterns on the cost of providing mobile network services in a metropolitan region is complicated by two factors. First, population density may affect not only the size and shape of the service network but also the conditions giving rise to the demand for services. This will be an issue primarily with respect to police protection; increasing population density tends to increase crime rates and hence frequency of calls, even though it may also reduce average travel time per call.

Second, a land use policy that produces more compact development cannot be evaluated without considering the location of jurisdictional boundaries. That is, if a given number of dwelling units within a city were arranged more rather than less compactly, the cost of providing most mobile network services by the city would be reduced. On the other hand, if the effect of land use policy is to cause a portion of the development otherwise occurring in unincorporated areas to locate instead within municipal boundaries, the costs of city services will most likely increase. The question then becomes: Is the increase in city costs greater or less than the savings in costs by the county government, individuals, homeowners associations, or special districts that otherwise would have provided services to the residences in question?

One must also determine if the level of service provided in the rural portion of the county is comparable to that provided in the city. For example, as a result of more compact development, city snow removal costs might increase while county costs remain the same; but this does not mean that more compact development is inefficient. The residents in the city may benefit from more prompt snow removal. If they would be willing to pay for this increase in service an amount equal to or greater than the increment in snow removal costs attributable to them, then efficiency is enhanced. The value of the additional service to the residents exceeds the additional cost. This is true whether or not they do in fact pay in taxes or charges in an amount that covers costs. If they actually pay more or less than the incremental cost, then one group of residents is subsidizing another. This is an equity, rather than an efficiency question, and is a legitimate concern in itself.

A study of refuse collection costs in New Haven and Hartford (Kemper and Quigley, 1976), indicated that costs per ton of refuse collected are higher for lower density neighborhoods within those cities. This is because the time required to collect one ton of refuse is higher the greater the distance over which a ton is spread. Their calculations indicate that a doubling of density (e.g., a subdivision of ¼-acre lots rather than ½-acre lots) would result in a 30% to 50% savings in total costs. This large effect is due to the nature of trash collection--operating costs, which are sensitive to time and distance, are high relative to capital costs, with labor costs alone accounting for around 75% of total costs.

Police services are also very labor-intensive, with wages and salaries typically accounting for almost 90% of total expenditures (Walzer, 1972). The result is that development patterns will have little effect on police costs unless they require different numbers of police personnel. The Costs of Sprawl, for example, estimated the cost of maintaining the same level of police patrol and same response times for the "low density sprawl" versus "low density planned" communities as described above. They found that the sprawl community required 25% more patrol cars and officers, resulting in a 1.7% increase in total capital costs and a 17.6% increase in operating costs.

This same study found a much higher impact on fire protection expenditures. This is because the sprawl community required construction of an additional fire substation, which in turn required additional vehicles and personnel. The result was a 58% increase in capital costs and a 52% increase in operating costs. Lower density fringe development will not necessarily require additional stations and equipment. If it does not, then the impact will be trivial, since the only effect of lower density is to increase vehicle operating costs for response to fires at greater average distance from the fire station. Such costs will be only a small percentage of total costs.

The impact of sprawl development on fire department costs is quite easily imposed on the fringe resident. The city can simply adopt a policy of maintaining a certain maximum response time to fires within a certain boundary. Development occurring outside that boundary will simply receive a lower level of fire protection; this in turn, will tend to increase fire insurance rates paid by fringe homeowners. If instead the city adopted a policy of maintaining response time anywhere within the city limits, it could then require developers to contribute to the cost of new fire stations wherever these were required by new fringe development.

As for ambulance service, it is unlikely that sprawl development has any significant impact on public costs of provision. Only vehicle operating costs will be affected, and fringe residents will bear the cost of the increased response time resulting from the decision to live at a greater distance from city hospitals.

A study of the Iowa City School District (Seacrest and Lewis, 1978) showed that it cost an average of $133 per year to bus one student from a rural area to a school in the district. Although the Iowa City district may not be typical (it ecompasses a very large rural area), it is clear that scattered development requires more bussing when compared to compact development, since fewer students will live within walking distance of a school.

Finally, public transit services can be affected if route length is increased or additional routes are required. Many cities have adopted zonal rates, whereby the fare is higher for trips originating outside a certain boundary. This can effectively insulate other transit riders or taxpayers from the cost effects of providing service to lower density fringe developments.

- End of Extract: Fisher

(c) Fixed Facility Services

- unlikely development patterns will have any impact on health and social service expenditures of local government. p. 39

- "on the balance, however, it is clear that low density fringe and rural development raises either construction costs or bussing costs". p. 40 (re: schools)

- sprawl development is likely to increase park expenditures or produce a lower level of services "...the residents of such subdivisions would bear the costs in the form of a lower level of park and recreation services - but with sprawl development, there may be less need for public acquisition of open space." p. 41.

(d) Jurisdictional Boundaries, Taxes and Equity

- A land use policy that restricts rural development could result in an increase in future residential growth within city boundaries and a decrease in development in unincorporated areas. This, in turn, would reduce the extent of commuting from unincorporated areas to city jobs, and the use of cities for shopping and recreational purposes by non-residents. To the extent that non-residents benefit from city services, this should make the financing of those services more equitable, in the sense that there would be fewer non-residents benefiting from city services without paying their share of city taxes. Non-resident commuters and shoppers increase congestion and wear and tear on streets, need police and fire protection, use city utilities such as sewer and water services, and may also use facilities such as libraries and parks. p. 41.

- A number of studies of expenditures by central cities have shown that per capita public expenditures are higher in cities where a larger share of the metropolitan population resides outside the central city (Hawley, 1951; Brazer, 1958; Margolis, 1961;

Kasarda, 1974). In other words, it appears that a large suburban population does place a burden on central city services.

- Some studies have found that, even taking taxes into account, suburbanites exploit the central city (McKee, 1968; Neenan, 1974; Green, Neenan, and Scott, 1974).

- There seems to be little disagreement that some city expenditures (e.g. streets, police) are sensitive to the level of use of the city--i.e., the daytime population. Non-resident workers and shoppers increase service costs. Also, if one attempts to measure the value of benefits received (in terms of the amount one is willing to pay to receive the service), then suburban exploitation appears greater. This is because non-resident shoppers and commuters may benefit from a service (e.g. parks, fire protection) even if their presence does not occasion additional costs.

- As for the contributions made by suburbanites, there are few direct or indirect taxes in Iowa that systematically redistribute income from suburbs or rural areas to central cities. There are no municipal sales taxes that would extract revenues from shoppers, or city earnings taxes that fall on city employees living elsewhere. Meanwhile, the per capita tax base of the central cities may be stagnating or deteriorating, in part because of the suburbanization of population, commerce and industry.

- Although there are many factors complicating the evaluation of suburban exploitation arguments, it does appear that more compact development patterns would increase the proportion of city workers and shoppers who also reside in and pay taxes to the city. This should have a beneficial effect on city finances (by increasing the tax base) provided that municipal services are properly priced. That is, the provision of services to newer developments within the city should not be subsidized. It would also improve equity (applying the standard that taxes should be paid in proportion to benefits received), subject to the same proviso. p. 43.

Summary re: Public Costs:

The evidence on the public sector costs of fringe development shows that the subsidies to leapfrog subdivisions can be very substantial. Residents of non-contiguous developments rarely pay the full incremental cost of providing public facilities and services; instead, they pay only the same average cost as other city taxpayers. Since it is more costly to serve outlying areas, leapfrog development raises average costs. All city residents end up paying more for services, thereby subsidizing costly development patterns. To the extent that fringe residents generally have higher incomes than the city average, this effectively redistributes income from lower to higher income groups as well. Land use controls could be used to enforce more compact development, thereby reducing the public service costs of sprawl. An alternative policy could also be chosen: the reform of urban service pricing practices. This would provide the incentive for compact development and would eliminate the public subsidies to fringe residents. p. 46.

Comay Planning Consultants Ltd., et al. A Study on Sprawl in New Brunswick. June 1980.

- ° Rising financial costs of the provision of services in NB and these appear to be related to settlement trends. Studies indicate that modifications to settlement patterns can produce financial savings.

- ° One common element to all the terms describing sprawl, namely that it describes unsatisfactory forms of development which intrude into rural settings.

The Report of the Task Form on Non-Incorporated Areas in New Brunswick (The Allen Report). (1976).

Rationale for this form of development (Sprawl)

- ° Areas are considered to be more pleasant, free of pollution and have a country atmosphere.

- ° Residents - reasons for locational choice are environmental (country atmosphere, quiet, private, scenic, etc.) and not economics. Thus it is unlikely that financial incentives or disincentives can play a substantial role in influencing demand. p. 85.

- ° In summary, it is evident that the major concerns about rural and fringe development are in the areas surrounding the three major cities...and it is our conclusion that the Provincial priorities should be concentrated around the major cities. (These are likely to become major problem areas in the future). p. 90.

Motivating Factors

(a) For residents - environmental and social (country atmosphere away from problems of city life)
- location
- no emphasis to economic reasons

(b) Government policies and programs facilitating fringe development:

- ° availability of farmland for residential development, due in part to changing farm economics and/or unsatisfactory government agricultural policies
- ° lower rural site development standards
- ° indirect or "hidden" government subsidies to rural residents, through lower rural property taxes and the provision of free or lower-priced services and facilities.
- ° government policies to provide rural infrastructure (highways, bridges, social facilities, etc.) and to support rural employment opportunities and community development. p. 93.

° health care)
° social services)
° education) this is one of the factors facilitating
° police protection) sprawl
° streets)

i.e. when an individual moves from urban centre to an outlying area such a move is not perceived as a reduction in the number and quality of services provided in urban centres. p. 99.

Rural and fringe area residents are heavily subsidized by virtue of paying lower taxes than their urban counterparts, with the Province providing a range of free services which are presumably equivalent (or nearly so) to those provided by municipal from local taxes. p. 100.

The Impact of Fringe Development

1. Environmental Impact

(a) visual pollution

(b) water pollution - groundwater, streams - quantity and quality of water supply/impact of septic tanks
- impact of a high density of individual wells in an area

2. Impact on Rural Land

   - excess consumption of land for development and establishment of inefficient/undesirable land use and development patterns
   - also loss of productive/potentially productive foodlands, and interference with agricultural operations.

3. Impact on Adjacent and Nearby Municipalities

   - none re: annexation as the cities have massive boundary extensions in order to bring most of the areas of potential development pressure into the urban development control machinery. Then in plans the land is urban and developed only under urban specifications. p. 118.

4. Financial Impact (main direct costs to province)

   ° school bus systems
   ° rural roads
   ° provincial highways
   ° electric power and telephone service
   ° costs of services (health, protective, postal) etc.

Summary

° Historically sprawl development has certainly had an impact on municipalities in terms of the substantial expenditures required to upgrade the servicing of areas which have been annexed by various municipalities over the last ten to fifteen years. p. 133.

  Costs of upgrading and correcting fringe area services - primarily water and sewer - have had a substantial financial impact. p. 133.

° Throughout the Province there will be regional variations in the pressures for development in the unincorporated areas; the risks such development may pose; and consequently the need to control such development. This variability is the major reason for our conclusion that any changes to the current system for dealing with rural and fringe development should be selective. Towards this end, it is recommended that the Province establish four Priority Zones in which it will make a commitment to intervene more actively in the control of rural and fringe development.

The four areas of the Province recommended for establishment as Priority Zones are those areas adjacent to and including Moncton, Saint John, Fredericton and Bathurst. This recommendation is based on the finding that a large proportion of all new residential development in the unincorporated areas of the Province during the past several years has occurred around these four urban centres and, according to our economic and population projections, future development pressure will continue to be concentrated in and around these centres.

- Prepare development frameworks for these areas.
- Establish realistic population and dwelling unit targets for the area.
- Establish priority development areas and a staging sequence for development to ensure that development is allocated so as to equalize the distribution of population on either side of the main highway, and to encourage infilling between existing development to maximize linkages with existing road systems;
- Improve and rationalize the vehicular access and circulation patterns, perhaps through the development of a collector/service road system paralleling the main highway.
- Establish a servicing framework for the area.
- Determine the future retail commercial needs of the population and the amount of land required for these uses, and allocate development rights to specific areas within New Maryland to accommodate these uses.
- Determine open space/park/recreation facility requirements for the area, designate general locations for these uses, and establish a procedure to secure the necessary sites.

- Determine future elementary school facility requirements, designate general locations to these school sites, and establish a site acquisition program.

Conclusions

- Recognize sprawl as a reality and that the simple prohibition of such development is not a realistic or desirable alternative.

- Explore ways of reducing the demand for fringe housing through increasing competitive housing opportunities within existing municipal boundaries. Allow septic tank development inside municipalities in locations that are remote from foreseeable servicing programs. p. 202.

The next ten pages are extracts from the study which describe in detail the experiences in the province.

The Report of the Task Force on Non-Incorporated Areas In New Brunswick (The Allen Report) (1976)

This report identified a series of problems created by the lack of planning for development in the unincorporated areas of the Province, acknowledging at the same time the lack of precise data on which to make substantive judgments. The major conclusions included:

- Urban sprawl (development on the fringe of existing municipalities) is the result of the desire for a "rural life-style" and lower tax rates and property values outside municipalities.
- Fringe area residents use municipal services without participating in the total costs of such services and as a result, the tax bases for the municipalities are being eroded.
- As growth continues, outlying areas are often amalgamated with adjacent municipalities; however, because of the lack of planning for fringe development, the cost of providing adequate municipal services (water and sewage in particular) to these new areas is prohibitively expensive.
- Ribbon development (the development of homes and commercial establishments in linear patterns along highway frontage) is a major problem in terms of creating conflicts between local and through traffic that often result in higher accident rates, the need to reduce speed limits and eventually, the need to build new highways, leaving the old route as an extremely expensive residential street.
- The increased demand for fringe housing has resulted in an increase in rural land values which encourages the sale of agricultural land for housing purposes and thereby makes it difficult for farmers to actually expand their operations if they so desire.
- There is an apparent lack of effective sewage systems (in terms of capacity and quality) in many rural subdivisions which could result in unsanitary conditions and pollution of the water supply.

The Third Report of the Select Committee of the New Brunswick Legislature on Rural Life and Land Use (The Fanjoy Report) (1977)

This report concentrated on the issues involved in planning rural land use in a society where the emphasis is increasingly urban, and where planning processes are primarily concerned with urban requirements. The report noted that urban sprawl is a major agent of deleterious changes to rural life and land use, and discussed the following factors affecting, and issues resulting from, sprawl development.

- The major causes of sprawl development include the increased mobility of residents of the Province; the high cost of urban housing and services; and, fewer building controls in rural areas.
- The high cost of providing power services to rural and fringe residents has resulted in a definite upward pressure on rates.
- The amalgamation of unincorporated areas which have sprawl development with existing cities and towns has resulted in costly expansions of services to these new areas and has created a situation in which some municipalities have little option but to refuse to provide service to such areas once they have been annexed, or to refuse outright to annex the unincorporated areas.
- The major economic and population growth in the Province over the next twenty-five years will be around Saint John, Moncton and Fredericton and there are no effective mechanisms to prevent much of this growth from taking place outside of the municipal boundaries.
- The possibility of potash development in the Sussex area illustrates the potential conflicts between mining development, farming and housing in unincorporated areas.
- Sprawl-type development, particularly along coastal and fresh-water shore lines, could have a negative impact on tourism and recreation opportunities.
- Sprawl-type development can have a negative impact on water resources (e.g. water contamination from septic tanks rendering inshore shellfish unfit for human consumption).
- Sprawl development has resulted in a loss of agricultural land and is seen as a threat to the identity of rural communities.

Report of the Agriculture Resources Study (The Parks Report) (1977)

This study comprehensively examined all aspects of the agricultural sector in New Brunswick with a view to introducing dynamism into the agricultural industry in order to provide reasonable income and security for the agricultural industry, and to encouraging agricultural development to take place as part of the total development of the Province. The study noted that achievement of these goals would require an adequate and assured supply of agricultural land for present and future use; in this regard it pointed out that sprawl development is detrimental to achieving these goals because of the following factors:

- Improvements to the rural road, electric power and water systems, together with school busing have helped to erase the boundaries which in the past have separated the rural from the urban portions of the Province, thereby increasing the opportunity to introduce urban lifestyles in rural areas.

- The interspersing of rural and urban uses breaks up major farm holdings and reduces the scale of rural operations, thereby reducing future land use options.
- The upward pressure on prices created by urban-related demands are a barrier to the consolidation of farm holdings and a constraint to new entrants into agriculture.
- Urban nuisances such as noise and pollution (especially from the close proximity of automobile traffic) negatively affect the farming environment.
- Traditional rural lifestyles and community values are being threatened by the intrusion of urban-oriented residents and activities such as snowmobiling and hunting.
- The high cost of serviced urban land makes it almost impossible for middle and low income families to own houses inside municipalities. The lack of property taxes and lower property costs have inspired people to move to rural areas, often despite a preference to remain in an urban setting.

2. OTHER STUDIES AND REPORTS

In addition to these three major studies carried out by the Province, there have been other statements of concern in the last few years about the form of settlement patterns which occur throughout New Brunswick. The most commonly held concerns about the impact of the dispersed population upon the Province are expressed succinctly in a commentary by Jean Dumas (1977) on the population trends in New Brunswick in which he stated that "...having lost practically all its agriculture identity, our society has developed an urban mentality, all the while remaining rural in the sense of being thinly built-up." Dumas argued that the urban mentality included the demand for urban benefits within a rural setting and indicated that this is an expensive form of settlement as the "cost of dispersion" includes higher costs of roads, education, hospitalization, and automobile use. He concluded that dispersion is a luxury - a luxury which is not paid for by those who benefit directly but is highly subsidized by the urban dwellers of the Province, and to a lesser extent by the remainder of the country.

Similar concerns are expressed in a study on settlement patterns in the Province carried out for the Ministry of State for Urban Affairs by D.P.A. Consultants Limited (1978). In examining some of the reasons for and the implications of current New Brunswick settlement patterns, the study indicated that the early 1970's saw a major shift in two demographic trends within New Brunswick (a shift from net out-migration to net in-migration and a shift of population from urban incorporated to rural non-incorporated areas). It elaborated on some of the unsatisfactory features of sprawl development including: the increased costs of providing urban-type services in rural settings; the increased number of accidents and costs of providing highway by-passes resulting from ribbon development; the less effective use of agricultural land; the inequitable basis for financing local services; and, the lack of local planning mechanisms in most non-incorporated areas.

A report prepared by W.H. Crandall and Associates (1977) for the Province reviewed the implications for future water and sewage infrastructure costs of growth within and outside of incorporated areas in the Province and concluded that in the shorter term (e.g. ten years), servicing costs would not vary appreciably whether growth occurred inside or outside incorporated areas. However, it also concluded that in the longer term (e.g. twenty-five years), if growth continued predominantly in the non-incorporated areas, the costs to Provincial and Federal assistance programs would be significantly increased over what they would be if this growth were to take place within existing built-up urban areas primarily because such growth would not take advantage of the investment in existing systems.

An additional comment on sprawl in the Province is contained in Schizophrenic Sprawl, a report on the proceedings of a 1978 conference on urban sprawl, held by the New Brunswick division of the Community Planning Association of Canada. The papers presented at the conference basically concentrated on similar sprawl-related concerns as were noted in such studies as the Allen and Fanjoy Reports. In addition to the various papers, this conference report included the findings of an attitudinal survey concerning sprawl which was administered to 700 exurban residents. This survey found that: the housing stock in the areas surveyed, which were just outside of four major New Brunswick cities, was predominantly owner-occupied, single family dwellings; the residents lived in these locations because they like the lifestyle; many of the residents had moved to these locations from the city and few were considering the possibility of moving back; and, very few complained about the available services.

Several of the reports and studies summarized above commented on the need to update the Provincial planning process. A 1979 report on a review of the Community Planning Act (undertaken by Cooper for the New Brunswick Department of Municipal Affairs) noted that the Act had in general served the Province well in creating an awareness of planning. The report suggested, however, several improvements in order to facilitate and encourage planning both for present and future needs. Its recommendations focused on the need to consider District Planning around the major urban centres and to reconsider the usefulness of Regional Planning; the need to coordinate the exchange of information between government departments to develop planning strategies; the need to upgrade the planning skills of Development Officers; and, the need to identify those issues that are Provincial in nature and should be under Provincial control, and related to this, the need to place the responsibility for decisions regarding other planning and development issues in the hands of those most directly accountable in each case.

In addition to all of the Province-wide studies which have addressed issues related to sprawl development, there have been several area-specific studies undertaken. These are listed in the bibliography to this report (Appendix E).

3. SUMMARY OF CONCERNS

Most of the recent population growth in New Brunswick has been taking place in the unincorporated rural areas. There is considerable concern about the problems that the new residential development in these areas has already created, and even more apprehension about potential problems that might arise as a result of existing and future development. In summary the concerns focus on the following issues:

Costs: There is considerable concern about the actual and potential costs of sprawl, specifically including the costs necessary to provide adequate road improvements to deal with ribbon development; the potential costs of upgrading existing services in sprawl developments; and the general costs of providing both hard (i.e. water, sewer, hydro, roads,) and soft (i.e. recreation, education, police protection, garbage collection) services to a highly dispersed population.

Conflicts With Agricultural Use: There is a general concern about the impact of urban-related residential development on agricultural lands, in particular regarding the reduction of agricultural land use and conflicts with existing agricultural uses.

Health Hazards: It is generally assumed that sprawl developments are actual and potential health hazards and that the extensive use of septic tanks will in the future lead to the pollution of water supplies.

Taxation: It is assumed that there is an unfair tax advantage obtained by sprawl residents who, it is commonly felt, pay considerably less taxes for virtually equivalent services; that there is a direct burden on adjacent urban residents as a result of non-urban residents' use of municipal services and facilities without tax contribution; and that there is an erosion of the urban tax base created by the redirection of growth to areas beyond the municipal boundaries rather than within them.

Effect On Natural Resources: While the effect of sprawl development on natural resources is not frequently noted as a concern, there has been mention of its negative impact on water resources, and on access to natural resources in general.

Effect On Future Development: There is a concern about the general capability of the planning system (and to some extent, the local government structure) to deal with the increasing trend towards development in the unincorporated areas in the Province. It is assumed that this inadequacy contributes to the other problems noted.

One final concern relates to the lack of concrete information from which firm conclusions can be drawn. The problems of sprawl development are very strongly felt to be evident but discussion of these problems is largely based upon intuitions and conventional wisdoms. The actual extent to which sprawl creates real problems, and the full extent to which these result in real costs, are generally undocumented and unsubstantiated. This is not to suggest that these concerns are unjustified, but merely that they do not constitute a sufficiently precise definition of the problems to provide the basis for determining governmental policy with respect to sprawl.

Example: City of Saint John Experience

Additional concern has been raised with respect to the public cost of maintaining and upgrading private communal sewer systems if these are to be taken over in the future on any large scale by the municipalities or the Province (the Provincial government has already taken over some systems in the Province). However, most development in this area is serviced with individual septic tanks.

Another level of concern relates to the experience of Saint John in the annexation of adjacent areas in the late 1960's, after which the City's boundaries included approximately 100 square miles or 66,000 acres more land. Subsequent to the boundary changes, many residents of the annexed areas began to demand the same standards of service as were provided in the rest of the City. There is some concern that this situation may be repeated in the future: that there will be pressures for Saint John to annex the areas currently outside its boundaries, and subsequently to upgrade their services to municipal standards. This would obviously require major expenditures on the part of the City.

The additional demand for schooling in the outlying areas has been met relatively effectively. However, the impact of the declining enrolment in the City of Saint John has created considerable problems for the authorities there, in terms of underutilized facilities and in the greater need to bus students to these facilities from suburban and fringe development areas.

A series of other concerns have been raised. There are briefly stated below:

- It is felt by some Saint John officials that the development outside the city limits has resulted in intensified use of city recreational facilities by people who are not city residents and who do not contribute to the tax base which supports the development and operation of these facilities.
- Much of the development has been along existing roads, creating congestion and significant capital expenditures for the construction of new roads.
- The outlying development has created higher Provincial snow plowing costs and higher road maintenance costs on both old and new roads.
- The New Brunswick Power Commission has been unable to keep up with the rate of development in the Province and "brown-outs" have occurred in some areas.
- Some specific additional problems have been noted in Quispamsis, such as the residents' demands for improved police and fire protection (there is a particular concern about the remoteness of available fire protection), and the cost to Quispamsis Village of taking over substandard developments and upgrading them to Village standards.

Example: City of Fredericton

c) Advantages and Disadvantages of Case Study Area

i) Views of Informed Individuals: A concern raised by some officials and others knowledgeable about development in the area is that the development outside of the City of Fredericton is "second-rate"; that the residents of the outlying areas will in the long run be dissatisfied with the level of service; and that ultimately the City will be forced to amalgamate these areas at great cost to the Fredericton residents. This view stems from the experience of the City following its amalgamation in 1973 with some surrounding municipalities, the nature of which can be briefly summarized as follows:

- there were considerable complaints from people in the outlying areas which were amalgamated for updating of standards;
- the City debt increased from $6 million in 1973 to $25 million in 1978;
- consequently some services such as garbage collection were decreased in the City; and
- although servicing is not completed, the City of Fredericton is now refusing to put out any additional debentures for upgrading of services.

This experience has led officials in Fredericton to regard the on-going development outside it with continuing apprehension. Within the city limits developers are now required to put in all services and thereby to pay the total capital costs of providing water, sidewalks, curbs, roads and lighting. However, since developers outside of the municipality are not required to provide services as extensively (e.g. sidewalks, curbs, and lighting are not required), the future upgrading of outlying development is looked upon as a potential expense for the City.

Concerns about development in the outlying areas in general have been expressed in regard to the following characteristics:

- Regulations in regard to the subdivision of property are so limited that developers frequently undertake subdivisions without any professional assistance, which results in many practical problems such as subdivisions designed so as to block future access to large areas of land.
- While there is little reduction of productive farmland, there is considerable loss of good wood lots.
- The City of Fredericton is suffering directly through losing its young, middle-class families to the outlying areas.
- Lack of planning has resulted in some conflicts in land uses in the outlying areas (for example, the re-opening of a crushing plant in Douglas has resulted in subsequent complaints about dust and truck traffic).

On the other hand, some officials also acknowledge that fringe development has the following features:

- People are moving out into those areas to fulfill a desire for greater privacy and more space which can not be satisfied in the City.
- These people are not getting a free ride and do pay for the services they obtain.
- Their use of the commercial facilities of Fredericton helps keep the City as a whole viable.
- Whatever congestion might be created by these new developments is dealt with by new Provincial road developments.
- Those people who hold land in the outlying areas should have the right to use it as they feel fit with minimal government intervention.

The general view, however, is that the gains obtained in living in these areas are short-lived and that in the long run problems will be generated. The major concern remains that ultimately amalgamation will take place and that the City will be forced to bear the burden of the cost.

The following specific concerns have been raised regarding particular problem areas:

- The major concern is about potential health hazards arising from the water pollution caused by the extensive installment of septic tanks.
- A consistent problem in the Fredericton area is that houses have wet basements because of inadequate weeping tile and storm drainage systems.
- Because of the piecemeal nature of subdivision developments later extensions to such developments create problems with the water table.
- Problems have been suggested, although not confirmed, regarding deterioration of the quality of water (due to hazardous chemicals, sulphur, and radioactive material).
- Concern has been raised about lagoon systems, which are operated by developers and paid for by user charges to the residents who have no leverage in dealing with the developers for the one-year period until the Provincial government takes over the system; however, no particular abuses of this procedure have been identified.
- It has been stated that the residents of the outlying areas have been dissatisfied with both road maintenance and snow plowing.
- There has been some unease expressed about the lack of visibility of the police in some of the outlying areas.
- There has also been concern about the pressures created on local municipal recreational facilities as a result of their use by residents of outlying areas.

With regard to educational services, informed officials and others acknowledged that there have been no major problems created by the development in the amalgamated portions of Fredericton or the outlying areas. Students are bused to schools in Fredericton where there is an excess of school facilities, and busing is accepted as a reasonable method of dealing with the problems of a dispersed student population. The only issue raised in regard to school facilities did not refer to their educational function, but to the fact that remote school facilities lead to a lack of community focus.

- End of Extract: Comay

Corporation of the District of Saanich. Saanich Official Community Plan Discussion Papers. 1984.

- Urban Containment Policy - limits area within the municipality for residential development. p. 6.
  - restricts growth to this area.

- Establishing the Urban Containment concept and making a continuing commitment to maintaining its basic objective of dealing with uncontrolled growth pressures has served as an effective growth management tool. In a sense, the Urban Containment Boundary has become a secondary Municipal boundary and has created two Municipalities, one being predominantly urban/suburban and the other rural. p. 17.

- Concept was developed in 1960's as a means of controlling lot fragmentation and the increasing densities in Rural Saanich. The concept is still valid and the large lot sizes should be supported as a means of both facilitating agricultural uses on a long-term basis and ensuring that fragmentation will not reduce future development options within the area. This policy should be maintained until there is a need for expansion outside the present Urban Containment Boundary. p. 41.

- If the urban containment policy is maintained it will be necessary to accommodate growth within the existing urban area through redevelopment.

Urban Containment (in early 1960's)

- Purpose is to control urban sprawl by making efficient use of land and services within the urban area. p. 101.

Problems with Relocation of Urbanites to Rural Areas

- Conflicts of urbanites in the country are well documented in other studies. p. 27.

- Another result is that the number of country residents is likely to exceed those engaged in farming operations or other rural occupations and, therefore, can become a significant political force.

- Another implication of increasing development in the rural area is the increased fragmentation of land which will occur.... Land fragmentation has several disadvantages. Land values increase as smaller parcels are almost always worth more per acre or square foot, the number of owners who have to be dealt with in daily municipal administration is increased, future land assembly is more difficult, farmland values become inflated as non-farm residents are usually willing and able to pay higher prices. There is also the "uncertainty effect" on farmers and their operations when a scattered pattern of small holdings develops around them. p. 27.

- A final disadvantage is that country residential development places considerable acreages in passive use which may become difficult to reconvert to other more active uses. Development in rural areas not only consumes land to provide building space but also it is used to provide services. Increased numbers of residents in the rural area necessitate more and wider roads and highways, more overhead telephone poles and hydro lines, and land is needed for extra recreation facilities. p. 27.

- The question of taxation and services is also important. A general conclusion from various studies conducted in Canada is that urbanites living in the country receive more than they pay for. This conclusion is based on an assessment of the wide spectrum of services provided, including: water, garbage collection, roads, education, fire protection, health, policing, and recreation. p. 28.

- The equitable distribution of costs versus services in rural areas is aligned with the non contiguous and low density residential nature of this use. It is a fact that people demand municipal services regardless of location. However, the cost effective provision of services generally requires compact continuous development not irregular patterns. Costs of services like roads, ditches, water mains, power, and gas lines are proportional to their length and the number of users. It is obvious that if costs were assigned on a per household basis they would be higher in rural areas than in urban areas. However, when costs are spread over the whole Municipality, it is evident that some residents must be subsidizing uneconomic services for others. p. 28.

Summary

° The foregoing is by no means a complete or full analysis of the issues of growth management in rural areas. Its purpose has been to highlight some of the major issues and implications which should be continually noted and referred to when dealing with seemingly innocuous individual proposals in the rural area. Its purpose is to emphasize the importance of Rural Growth Management as well as Urban Growth Management. p. 28.

A very obvious conclusion, in terms of the costs of growth, is that intensifying land use inside the Urban Containment Boundary will be more cost effective. From an overall perspective, the existing service infrastructure can accommodate increased growth. Expanding growth substantially beyond the Urban Containment Boundary will add costs by having to provide new services demanded by residents. The converse of this approach implies limiting growth outside the Urban Containment Boundary. The primary reasons are to reduce future servicing costs, maintain the rural or urban estate character, provide optional lifestyle choice, reduce pressures on agricultural land, and maintain the more laissez-faire or less formalized approach in terms of municipal regulations and requirements that large lot development allows. p. 29.

Saanich Official Community Plan. Corporation of the District of Saanich, B.C. 1984.

- Urban Containment Boundary Concept is maintained whereby the role and character of a suburban/rural community within the larger region is retained (p.7).

- A different series of policies are established to regulate type and intensity of development activity; the higher density, more service demanding land uses being directed to within the Urban Service Boundary, subject to conformity with the Local Area Plans (p.8).

Vischer Skaburskis, Planners. **Rural Residential Subdivisions in British Columbia.** **July 1981.**

- The demand for rural lots appears to be greatest where the subdivision is closest to municipal boundaries; more than 15 miles from town, demand tends to drop off. p. 2.
- In most of the areas rural lot prices are lower than municipal lot prices and the lot size is substantially larger. p. 15.
- Rural residential population consists of young heads of households with a large number of children. p. 25.
- Most residents are selecting a way of life that most closely approximates the elements of the environments they grew up in (rural areas or small town). p. 25.

Reasons to locate

- Escape from undesirable aspects of urban living.
- Cheaper land or lower taxes not important.
- It is possible to generalize from this data that rural subdivision residents are quite dependent on the proximity of a commercial centre with employment, shopping and recreational opportunities to the extent that they might not consider rural living an option if a town were not reasonably accessible. p. 61.
- Centain components of their lifestyle are important to residents. They are generally somewhat dissatisfied with the services they receive - local recreation facilities, road access, etc.
- Low tolerance for more growth and development in their neighbourhood - maintain their rural lifestyle. p. 70.
- Favour more rather than fewer services. p. 71.

- Rural residents do not appear fully satisfied with the amount of services they receive. p. 83.

- The need for certain services appears to be a significant factor in causing people to consider moving into town, especially schools and recreation facilities, i.e. services related to children's needs. p. 84.

- The lifestyle appears to depend on a minimum level of safety and comfort - if services to rural subdivision residents were reduced, fewer households might be likely to choose rural living over living in town. p. 84.

- The opportunity to own acreage outweighs the possible disadvantages of fewer services and the distance from town amenities. p. 94.

- Residents need to live close enough to a town centre of a certain size to ensure that they have job opportunities, access to shops and schools, and receive municipal-type services. They recognize that they are dependent on the automobile, but would prefer to reduce the amount of driving that they have to do as much as possible. Making rural lots available close to town, however, may pose problems for municipal growth and will increase demand for municipal services. Municipalities may be forced to review their boundaries because of the pressure caused by incremental growth, rather than adhering to planned growth patterns or targets. p. 112.

- "Best of Both Worlds":

  Residents want the amenities of country living (privacy, tranquillity, clean air, space) without the costs of country living (social and physical isolation, lack of services, heavy physical work, harsh winters). They want the amenities of town (jobs, recreational and leisure facilities, services, accessibility) without the disadvantages of town living (noise, traffic, smells, roaming bands of youngsters, medium- to high-density development). In order to maintain rural residents in the best of both worlds, municipal and provincial governments have to provide extra services, alternative rural land uses are foregone, and there is a certain amount of cost to society. p. 113.

City of Calgary. Regional Planning Concerns. Commissioner's Report to City Council. 1986.

- reintroduce concept of density control in urban fringe with the intent of protecting City's growth options

- make protection of growth corridors more enforceable under Regional Plan

Report of the Task Force to Consider Request by M.D. of Rocky View for Provision of Water by City of Calgary

- "benefit to the City is to obtain input into the planning and development process in the urban fringe area and in input to development agreements that serve to manage the water and sewage situation in the rural area."

- one of the issues looked at is:

  "an evaluation of the impact that the provision of reliable water supply will have on land use and subdivision in the rural area, and the resulting impact this will have on the City's annexation opportunities."

- the study area is west of the City - in an area where "most complaints had been received concerning water supply or water quality. It also covers the area where the majority of country residential uses are concentrated and where development pressure for further subdivision is anticipated."

  - "the City, while wishing to retain sufficient residential lands within its jurisdiction to meet its reasonable growth needs (0 - 30 years) does not necessarily wish to administer large rural areas within its boundaries for an extended period."

"The Unicity Principle:

The unicity principle is a long standing principle in the Calgary Region. In concise terms, "unicity" attempts to achieve a clear separation of urban and rural uses on the premise that urban uses are best served by being located in urban jursdictions and rural uses are best served by being located in rural jurisdictions. Unicity also means that there should be one government for urban development in the Calgary area."

- ° The City would treat the M.D. as any other land developer inside the City and they would be governed by the general principles set out in the Standard Development Agreement.
  - frontend and construct facilities to City limits
  - meet City standards to achieve cost recovery

- ° For system compatibility and reliability any rural system extended into the study area should be designed to be compatible with the city pressure zones. For the Municipal District this has the advantage of providing reliability in the operations of their system and aiding in potential cost recovery as there would be more likelihood that portions of the rural system would be considered permanent and thus eligible for cost recovery. For the City an advantage would arise if annexation were ever to occur. A rural system based on urban standards could be more readily absorbed or adapted to the City's urban system.

- ° Concern re: quantity of water - would rural users cause larger per capita consumption given the expected irrigation demand of the size of the residential parcels. Excessive use has a major impact on the economics and overall feasibility of the rural system.

- ° Compatible rural system to City's standards and specifications - advantage to City when it annexes the area.

- ° It is not intended by the City to extend utilities to the city limits in advance of normal development sequences. This to be the responsibility and cost of the M.D.

Annexation problem:

- City faces the potential of having a two tiered water supply policy - one urban and one rural.

- If rural water system exists within city limits, then the City will be faced with the possibility of different customers having different levels of service and the servicing problems associated with the transition from rural to urban densities systems.

Land Use Issues

° Study area is required for City's long-term growth needs.

° Typically the private sector operates in a short time frame. The onus is therefore on the City to attempt to ensure that land is not only available, but is desirable for the private sector when the time comes. In line with the methods of operation used by the present development industry, the preferred character of land is unsubdivided and not built on, readily serviced, relatively inexpensive to service, well located with respect to amenity and employment areas, and in a preferred market area.

° Consideration should be given to the fact that lands in the study area may be annexed at some future date. As such, land uses should be able to be readily converted to urban uses, should be compatible with future urban residential uses, and should, generally speaking, be lower assessment generators to avoid conflict at the time of annexation.

° City will only support connection for rural residential uses.

° Need to provide for economic expansion of the City.

° Agreement on three points:

1. If parts of the study area are named as being required for annexation, the City would request that no further subdivision be permitted in these areas and that the present zoning be amended to reflect existing uses, thereby precluding further subdivision.

2. In the Urban Fringe:

    ° subdivision design would take into account long-term servicing needs of City (use of rights-of-way, easements, MSR, ER to protect utility/road routes)

- country residential/small holding parcels would be clustered to retain a large area of land for future urban land assembly
- clusters would be located to avoid being barriers to utility routings
- urban overlays would be designed with implementation techniques in place for country residential/small holding areas
- lands not on the rural water system alignments and presently zoned for agricultural use would remain in an agricultural zone
- Unresolved as to the location and amount of density to occur in the urban fringe

  - principle of increases in development on water line routes and decreases in development elsewhere.

3. Non-Fringe Areas

The City does not perceive these areas being required for future urban expansion - here the M.D. may look to locating their higher density population nodes.

Land Use Policies Discussed

LU.4 The Municipal District will give preference to the non-urban fringe areas to locate higher density nodes that may be required to support the costs of the rural water system.

LU.5 Parcel sizes in the study area should reflect the rural environment and lifestyle and will not be "urban" in nature.

LU.6 The City and Municipal District staffs will undertake a joint study to establish the technical details required for easements/rights of way as an information base for implementation.

LU.7 The Municipal District, as Subdivision Approving Authority, will acquire, when possible, the appropriate easements and rights of way needed for future urban development. Where this is not possible, subdivision designs will be adjusted to place needed easements/rights of way in MSR, ER, or in the balance of the quarter section. As a final resort, where the above cannot be realized, easements/rights of way will be built into overlay plans with accompanying implementation techniques.

LU.8 Land use and development in the urban fringe should adhere to the following principles:

- some increases of density may occur at water service nodes to assist in supporting the costs of the rural water system.
- subdivision, where it occurs, will be designed to take into account the long-term servicing needs of the City in terms of rights of way, easements, etc.
- parcels will be clustered and development located to avoid being barriers to future utility and road routings.
- where the use of urban overlays is indicated, urban overlays will be designed and implementation techniques put in place.
- lands not on the rural water system alignments and presently zoned for agricultural use would remain in an agricultural zone.

LU.9 Land uses in the urban fringe part of the study area will be compatible with future urban uses.

LU.10 Land uses in the urban fringe part of the study area will, generally speaking, be lower assessment generators to avoid conflict at the time of annexation.

LU.11 The degree to which the Municipal District and the City will exercise joint planning control in the urban fringe.

LU.12 In the urban fringe, the degree to which areas of unsubdivided and undeveloped land will be retained for future urban expansion, and therefore the degree to which down-zoning will occur.

Implementation Techniques

- The Task Force concluded that the necessary agreements that are required by each municipality cannot be made and enforced under present legislation.

- They also concluded that the engineering and planning studies must be interrelated.

Regional Planning Considerations and Recommended Changes of Committee:

- The City of Calgary places great importance on having strong urban fringe provisions in the Regional Plan.

- There are no less than seven different jurisdictions involved in planning in the Calgary Urban Fringe.

- As a result of input from the Alberta Planning Board in the regional plan approval process, the urban fringe policies are much weaker than originally envisioned.

- There have been several decisions made at the APB in recent time that serve to further undermine the strength of urban fringe policies.

- There is a very high level of proven development pressure in the Calgary Urban Fringe, particularly on the west side of the City.

- In a weakened regional planning environment there is little incentive for rural municipalities to continue to oppose major development applications. This may result in the loss of the protection to future growth options for the City promised by the Regional Plan.

- The solutions proposed in this report involve changes to:

  - the Planning Act;
  - the Calgary Regional Plan;
  - the Calgary General Municipal Plan.

Letter dated February 18, 1986 from Chief Commissioner, City of Calgary to Municipal Manager, M.D. of Rocky View

- The City has serious reservations about an increase of development in the urban fringe area. It is clear that the provision of water would facilitate more development; in fact, higher densities may be necessary to justify the overall system costs. It is quite conceivable that, in order to provide certain control over future development, the City of Calgary may apply to annex the area in question and, as a condition of annexation, provide a water system to rural standards only if this would avoid future development and expansion problems.

- Calgary's uni-city status is almost unique in North America. The evidence of problems with urban development in satellite communities in other jurisdictions is too convincing for the City to want to encourage it.

- It is the opinion of our Law Department that specific Provincial legislation would be required to facilitate water service as proposed. Full agreement of our two municipalities would no doubt be a prerequisite to the Province considering such a request for legislation. However, before an application to the Province could be made for the City to supply water to Calgary's urban fringe, an agreement would have to be reached which would give the City of Calgary substantial planning control in the fringe area. Furthermore, a clear agreement would have to be in place that would not compromise the City's ability to expand, subject to the Local Authority Board's approval, as and when its population growth and need for urban space dictates.

- Water service could be extended past the fringe area, but development in these areas would have to remain rural in form and intensity.

Urban Sprawl in the Toronto Centred Region. Prepared for the Committee on Population Redistribution, City of Toronto Planning and Development Department. February, 1981.

- "The Plan's aim - to structure anticipated growth in the 90 mile arc around Toronto into a well-defined patterm of communities which could be efficiently serviced with transportation, water and sewer facilities and, at the same time, preserve agricultural land and environmental quality." p. 3.

  When expectations of growth are exaggerated, area municipalities designate more land in their Official Plans for residential development and employment centres than will be required. Unnecessary facilities (water and sewers, hydro lines, roads, transit facilities) may be planned, and perhaps even built. This encourages the private sector to spread development over a wider area than necessary to accommodate population growth - urban sprawl.

Case for a compact urban form:

- more land reserved for rural, recreational, natural and agricultural uses (increase densities)
- more attractive and less costly public transit
- more efficient use of existing infrastructure and public services, reducing the need for additional facilities
- more generous provision of social services
- A more compact urban form could be encouraged by reducing the amount of unserviced land designated in municipal plans for urban development and increasing average subdivision densities.

City of Toronto

Growth issues don't apply to Toronto, as the City is no longer growing. The newer fringe suburbs are where most of the growth in population and urban development is taking place. The only area in the City with a large amount of unserviced and undeveloped land is the port industrial area. This area has been held in reserve for port and related industrial operations.

The Toronto Region: Population Trends and Projections. Research Bulletin No. 25. City of Toronto Planning and Development Department. Feb. 1985.

° In 70's nearly all the new population growth in the region spilled over onto newly developed land on the outskirts of Metro. Ninety percent of the region's increase to the fringe municipalities. About half of this resulted from the outward movement of population -- mainly young families -- to newly constructed housing in the fringe. p. 3.

° In response, Province of Ontario created four new two-tier regional municipalities in 1974 in an effort to alleviate problems related to financing, physical development and planning encountered by the small fringe municipalities.

° Recently trends show population level of inner three municipalities has stabilized - housing studies show conversions now outspace deconversions (major redevelopment projects).

° The Baby Boom impact -- household formation age, leaving declining school enrollments in Metro, demand for new apartment units in Metro, and single family homes in the fringe. In future years, demands for health care, senior's housing and support services will sharply increase. p. 4.

° Increased rate of household growth in region.

° By mid 1970's, supply of developable land within Metro was virtually exhausted.

° Impacts on future demand and distribution of services, housing and transportation facilities in the region:

(a) Children - projected pattern of growth indicates a growing demand for services such as schools and day care in the fringe at the same time as the demand within Metro Toronto subsides. p. 11.

(b) Seniors - increasing number of seniors will be found residing in fringes. Specialized needs of elderly population -- health care, housing and support services, indicate a significant increase in expenditures for seniors, with bulk of demand in fringe. p. 13.

(c) Long distance commuting - substantial increase as resident labour force decentralizes at a faster rate than jobs -- implications re: transportation infrastructure to accommodate commuters.

(d) Employment growth - inbound commuting from residents located in fringe will rise.

(e) Job to Worker Ratios - projected growth indicates a widening of present imbalance of jobs and workers.

> "Unless there is a significant increase in the number of jobs located in the fringe, or a large increase in the number of workers housed within Metro close to existing employment concentrations, the volume of longer distance commuting and the demand for infrastructure required to accommodate the resulting flow of workers into Metro will grow substantially." p. 15.

Planning Implications

° Need to re-assess the emerging pattern of regional growth in relation to the high public costs of additional requirements for transportation, schools, health care and social service facilities in the fringe, and the shifting, and declining demand for similar services already in place within Metro.

° Continued growth in long distance commuting and increased dependence upon the private auto for work trips and on subway for work trips downtown.

*° Issue of whether a more balanced pattern of growth at reduced public cost could be achieved in the longer run is worth exploring. p. 16.

° Redevelopment opportunities -- older industrial sites, school sites and under-utilized shopping plazas -- housing in Metro.

° Need for integrated approach to planning -- need to monitor growth, allocate services, and direct growth as required, in a manner which minimizes public costs and best serves the interests of the entire regional population.

° Province is the only body to address regional planning issues: need to

  ° curtail urban sprawl,
  ° concentrate future growth in those parts of the region with sufficient existing or committed infrastructure,
  ° encourage the wider use of public transit,
  ° cut commuting distances by decentralizing employment opportunities, and
  ° preserve prime agricultural land.

° Presently planning is in mutual isolation -- need a joint planning process for the Toronto region. p. 16.

Cost/Revenue Analysis and Study of Residential Development in Selected Rural Municipalities of Manitoba, 1973. Department of Municipal Affairs.

TERMS OF REFERENCE

° looked at all dwellings on land having an area up to 20 acres.

° 'conduct a cost/benefit study of rural residential development in formerly farm areas' and specifically in the Rural Municipalities of Rosser, Springfield and East St. Paul.

° In addition, the following comparisons were to be made between the years 1966 and 1971 for each of the three Rural Municipalities:

- the value of residences and property

- the level and cost of service for:

i) Roads
ii) Street lighting
iii) Police protection
iv) Fire protection
v) Water and sewer
vi) Garbage and solid waste collection
vii) Education
viii) Public health and welfare
ix) Community planning
x) Hydro
xi) Telephone
xii) Other

- the revenues generated by the selected areas in meeting the costs of the above services.

Finally, the Terms of Reference required the Consultant to develop 'general conclusions regarding the relationship between revenue and costs, levels of services and residential density' consistent with a position paper for a study of rural residential development which is included as Appendix I to this report.

° "The Table indicates that costs and revenues affecting the general mill rate are not changed significantly by a swing from a rural farm community to a rural non-farm community at the base level of service". p. 39.

1. What is the optimum lot size for rural residential development?

There is widespread acceptance by the Rural Municipalities surveyed and by the planners interviewed that the indiscriminate siting of small lots is highly undesirable because of the effect they have on agricultural land use; the social and aesthetic problems; and the virtually complete loss of control over subsequent planned development where such lots are scattered over the planning area.

Therefore, some rural municipalities are limiting planning permission to lots of 20 acres minimum in the areas studied and 40 acres in other municipalities.

As part of the study, approximately 15 short interviews were conducted with persons who were either residing in rural municipalities surrounding the City of Winnipeg (although not necessarily within the areas under review), or who were contemplating a move to such an environment. These interviews indicated that 20 acres (or even five acres) represent far more land than the average urban-oriented family would normally want, or be able to maintain at a standard consistent with that of the surrounding agricultural community. The likelihood is that these properties would, in many cases, lie fallow and present a derelict appearance. Our own observations in the field tended to confirm that such is the case.

2. Taxes

"Farmers whose land is adjacent to areas in which assessment values have risen because of development pay more taxes than farmers with similar land in purely rural areas." p. 47.

3. Schools

° "a sharp increase in municipal school tax rate as areas became more and more non-farm communities." p. 47.

4. Is there a Future Demand for Improved Level of Service?

° Planners argue there will be a demand for improved services; that these services will be met and that in doing so they could represent a cost to the other residents of the community.

° "We recognize that costs would likely be higher in the long run for unplanned rather than for planned development. We do, however, believe that the case for comprehensive planning should be argued on its merits rather than on assumptions such as the incidence of future costs." p. 51.

° "Any reasonable demand for a higher level of service in areas of relatively intense development can be met effectively without additional cost to the municipality at large by establishing a Local Improvement District." p. 53.

Bird, R. and Slack, N. Urban Public Finance in Canada 1983. (Butterworth & Co.)

° Externalities

Some form of government intervention is usually required to correct the market failure. There are three possibilities. The first is to subsidize the jurisdiction generating the externality so that it will consider the external benefits as well as the benefits to its own residents; the second is to internalize the externality by making the government jurisdiction large enough so that all of the benefits of the good are enjoyed within the jurisdiction; and the third is for the jurisdictions concerned to negotiate an appropriate arrangement directly. Subsidies intended to account for externalities are discussed further in chapter 7, while the relevance of the spillover criterion for designing governmental structure is discussed later in this chapter. The third approach - sometimes called the "Coase solution" - is only applicable in very limited circumstances.[11]

° Tiebout Hypothesis - "voting with one's feet" - for local public goods

- "Estimating demand for local public goods is difficult because there are no price signals to force customers to reveal their preferences."[26]

- Political process has to substitute for the market process.

- "Voting with one's feet involves moving to an area that provides the package of public goods and corresponding taxes that best approximate the preferences of the individuals making the move." p. 53.

Riddell Stead & Associates Ltd. Cost/Revenue Analysis and Study of Residential Development in Selected Rural Municipalities of Manitoba. 1973.

- Study looked at cost/revenue implications of rural resident development and the associated level of service.

- The problem had to be examined on two levels, namely:

  (i) the costs and revenues which have actually been generated or are being generated to date, and

  (ii) the cost and revenue relationship that might be encountered in the future if a higher level of service is demanded and provided.

- Rural residence defined as a dwelling on plot of land up to 20 acres in area.

- The table indicates that costs and revenues affecting the general mill rate are not changed significantly by a swing from a rural farm community to a rural non-farm community at the base level of service p.39.

- Conversely, educational costs appear to increase sharply as the areas become more and more non-farm communities. But this could be indicative of a general increase in salaries and operating costs and enriched educational programs. p.40.

- Concluded that there is no demonstratable financial cost to the rural community for the provision of municipal services arising from an increase in rural non-farm development. At least over the short-term, the cost experience suggests that new development might well generate a distinct monetary gain to the general cost structure. p.40.

- Capital grants are excluded from the study.

- As to future service costs, recommend use of Local Improvement Districts.

Limitations of Study

- Areas studied provided only basic services and this did not change. No new roads were created. p.52.

W.H. Crandall & Associates. **Forecast of Water and Sewerage Infrastructure Costs for the Province of New Brunswick.** 1977.

- looked at two styles of development:

  Case 'A' - assumed majority of growth took place within existing incorporated areas.

  Case 'B' - majority of growth took place outside of existing incorporated areas.

- with this information the cost to Provincial and Federal assistance programs was determined and the effect of various styles of growth was analyzed.

Conclusions:

° The results of this study, projecting costs to 1988, appear to indicate that servicing costs do not vary appreciably with growth either inside or outside of incorporated areas. There are several factors which must influence any conclusions drawn from this report.

(a) The growth considered by this study is for a ten-year period. The population increases for the majority of the municipalities are not unusually large, and therefore do not place unusual demands on services.

(b) The minimum standard requirement dictates that systems will be installed in some municipalities or communities for this reason alone. If not for this, many communities would not receive systems unless significant growth occurred and a pollution problem had to be avoided.

(c) The work required in many municipalities is extension or completion of systems to serve areas not currently serviced. Also, many currently serviced areas have considerable undeveloped areas on the systems. These factors allow much, and in some cases all, of the growth over the next 10 years to be accommodated through infilling.

(d) The development by-laws of many large municipalities require a developer to install all services within a subdivision, and to extend water mains and trunk sewers to existing municipal systems as required at no cost to the municipality. Therefore, once a basic system is installed there is little additional cost to the municipality, the Province, and the Federal government. p. 88.

° However, it appears that these factors and others can be interpreted to present a different conclusion, especially when growth is extrapolated well beyond the 1988 date of this study. Basically, predominant growth in unincorporated areas over an extended period of time can be expected to be much more expensive for both senior levels of government to assist in the construction of services, when compared to predominant growth in incorporated areas. This is primarily because it does not take advantage of the investment in existing systems and does not put the obligation for installing and extending full services on the developer. p. 89.

° The sample development case prepared as a part of this study produced interesting conclusions.

(a) If a developer is able to take advantage of lower servicing requirements in the unincorporated area, it is more advantageous to him since it requires a lower total investment and can yield a higher percentage of profit than the same type of development in an incorporated area.

(b) The cost of servicing alone may be less to a homeowner in an unincorporated area when considered over a 10-year period. However, there are a number of other factors including a lower standard of service, significantly greater transportation costs, and less convenience which can make the subdivision in the unincorporated area less attractive than a development in an incorporated area, even though initial lot costs are greater.

(c) The Provincial assistance programs are required to contribute significantly more to developments in unincorporated areas which eventually become incorporated, as opposed to the same development taking place within a serviced incorporated area.

(d) The assistance provided by CMHC is not significantly affected by the style of development. This is because assistance on water systems is based on future growth, rather than past or existing growth. For treatment, the assistance is on the total population to be accommodated (plant size), which is the same in either case. p. 89.

° Development of subdivisions in unincorporated areas would be discouraged if the standard of services which was applied was the same as existed in the incorporated areas. This would include a central water supply, storage, and distribution system, and asphalt paved streets with curb and gutter, using the presently desirable standard as a base.

3.0 STUDIES ON POLICY ALTERNATIVES

Peter S. Fisher. Public Service Provision on the Urban Fringe: A Case Study of Development Patterns and Infrastructure Staging. March 1983. University of Iowa.

° Previous research on the costs of sprawl falls into two categories:

(1) statistical analysis of actual cities
(2) engineering estimates of service costs for hypothetical development alternatives. p. 1.

(A) Problems with Approach (1) in that they tell us little about the cost of providing alternative development patterns with a given level of public services. p. 3 (i.e. each City has unique characteristics).

(B) Approach (2) engineering cost estimation approach
Wheaton & Schussheim (1955)
Isard and Coughlin (1955)
Booz, Allen & Hamilton (1974), Tucson, Arizona
The Costs of Sprawl (1974)
° costs delayed are costs saved, in terms of their present value but these studies miss time dimension; and institutional context (share of population served by non-municipal systems). p. 7

(C) This Study's Approach

Approach of Study is an extension of the engineering estimate approach - looked at public cost of: water mains, sewer lines and streets, storm sewers, school construction for the City of Cedar Rapids, Iowa.

Two policy alternatives were selected and evaluated as to cost differences:

(1) county zoning that restricted residential development in urban fringe
(2) city zoning that reduced discontiguous development within the city.

Results of Evaluation

- A set of city policies in 1965 that eliminated discontiguous development within the City would have at most reduced city tax burdens by 2 percent by 1980.
- Restrictive county policies - insignificant cost savings to county taxpayers.

Conclusions

- The magnitude of potential cost savings from the adoption of restrictive land use controls leads one to conclude that the "costs of sprawl" argument is a weak one. p. 41.
- "Study did not find significant cost savings attainable." p. 41.
- If the City adopted water and sewer extension and pricing policies that forced developers to pay the full cost of extensions then the public cost of sprawl (with respect to City residents) would be largely eliminated." p. 42.
- Adopt a pricing rather than a regulation strategy to reduce the public costs of sprawl.

Recommendations

- Staging of improvements (and hence control of the timing of development) that is sensitive to the market and timed appropriately.
- A policy of infrastructure staging that minimizes creation of excess capacity is not optimal. When interest rates and construction costs are rising (or are expected to rise) it is cheaper to permit leapfrogging and create substantial excess capacity which can then be drawn upon in later years. When interest rates are high and are expected to decline (and when inflation in construction costs is expected to moderate) then it makes sense to infill and utilize existing capacity instead of borrowing to build additional capacity. A regulatory policy is less likely to be sensitive to these considerations than a pricing policy which forces developers to respond to market signals. Developers will have a natural tendency to build more sooner (including more water and sewer lines and access roads) when costs are low and rising, and to delay building or minimize capital improvements when costs are high and falling.

Arthur C. Nelson. "Using Land Markets to Evaluate Urban Containment Programs" in Journal of the American Planning Association. Spring 1986, Vol. 52, No. 2. pp. 156-171.

Urban containment programs limit urban sprawl by imposing growth boundaries or other limits around urban areas and by creating greenbelts.

(a) Urban growth boundaries: typically are designed to accommodate twenty years' worth of urban development and are accompanied by a variety of growth management techniques intended to ensure efficient urban development within those boundaries (Gleeson et al. 1975; Carter, Kendall, and Norbert 1974; Johnston, Schwartz, and Klinkner 1978; Johnston, Schwartz, and Tracy 1984).

(b) Greenbelts serve two purposes: they prevent low-density urban development in the countryside, and they provide urban residents with a variety of benefits, such as air cleansing and flood control, food and wood production, recreation, and scenery.

Greenbelts may be created when public agencies purchase land outright for greenbelt uses (as in the case of Boulder, Colorado) or when they purchase the development rights of land for the purpose of limiting its private use to greenbelt activities (as in King County, Washington, and Suffolk County, New York). Since few American government agencies can afford ambitious greenbelt acquisition programs, many instead apply various forms of exclusive agriculture, primary forest, and other open space zones on rural land to restrict its use to greenbelt activities (see, for example, Furuseth 1980 and 1981; Gustafson, Daniels, and Schirack 1982; Daniels and Nelson 1986).

° Objectives of urban containment programs:

1. To eliminate development pressure from greenbelts by guiding the demand for urban land into carefully defined urban areas.

2. To prevent speculation on greenbelt land and, indirectly, to encourage farmers to make and maintain agricultural investments in the greenbelts.

3. To maintain, and possibly enhance, the production of greenbelts of public goods, such as air cleansing and flood control, that will benefit the entire urban area. Indirectly, they also are intended to maintain, and possibly enhance, the production of quasi-public goods, such as views and privacy, that only benefit urban land that is near greenbelt land but not the entire urban area.

- Sinclair's counterintuitive theory: the value of land for farming declines from some point on the landscape toward the boundary of urban development, for four reasons.

- Nelson's gradient: urban containment program not only should increase the value of urban land by creating a gap in land value gradient at the urban growth boundary, but also should increase the value of urban land near greenbelts.

Urban Land Market Postulate:

Assuming a competitive regional land market with a normal curve of land values extending from the city center, an urban containment program that includes an urban growth boundary at distance u_2 from the city center and greenbelt zoning beyond u_2 will (a) create a gap in land values at the boundary, (b) reveal that urban uses have a negative effect on nearby rural land values between u_2 and u_3, and (c) increase urban land values as a result of proximity to greenbelt land between u_1 and u_2. If an urban containment program does not yield those outcomes, the program is not influencing regional land values at the urban fringe in the intended ways.

Study

- Analysis of the Marion County portion of Salem, Oregon urban growth boundary
  - Found that a parcel's location inside or outside the urban growth boundary does affect its value significantly ($3,900 per acre)
  - Greenbelt zoning pushed land values downward by about $3,400 per acre. p. 160.

- The value of rural land with respect to distance from urban development, as measured from the urban growth boundary, does not begin to fall until about 17,500 feet away from the boundary, all other things being equal. p. 163.

- The use of an urban growth boundary and greenbelt zoning to keep urbanization from encroaching onto rural land apparently prevents speculation of farmland. p. 163.

Policy Implications:

- Urban containment programs should segment the regional land market into separate urban and rural land markets by the third year of their existence. p. 164.

- Speculation will be prevented in the rural land market as owners of greenbelt land find that their only economic use of land is for agriculture or other allowable greenbelt activities.

- On the urban side of the urban growth boundary, the land market apparently will value proximity to greenbelts -- essentially a windfall from government action. p. 164.

- When local governments exercise their police power to prevent speculation from affecting the value of rural land, an interesting equity concern emerges

  - nuisance compensation
  - share the windfall with property tax system.

Conclusions:

- Evidence and theoretical reasoning to prove urban containment programs will

  (a) Segment the regional land market into separate urban and rural land markets.

(b) Prevent speculation from affecting prices of greenbelt land.

(c) Increase the value of urban land that is near green belts.

° The regional land market may be used to evaluate the effectiveness of urban containment programs. p. 166.

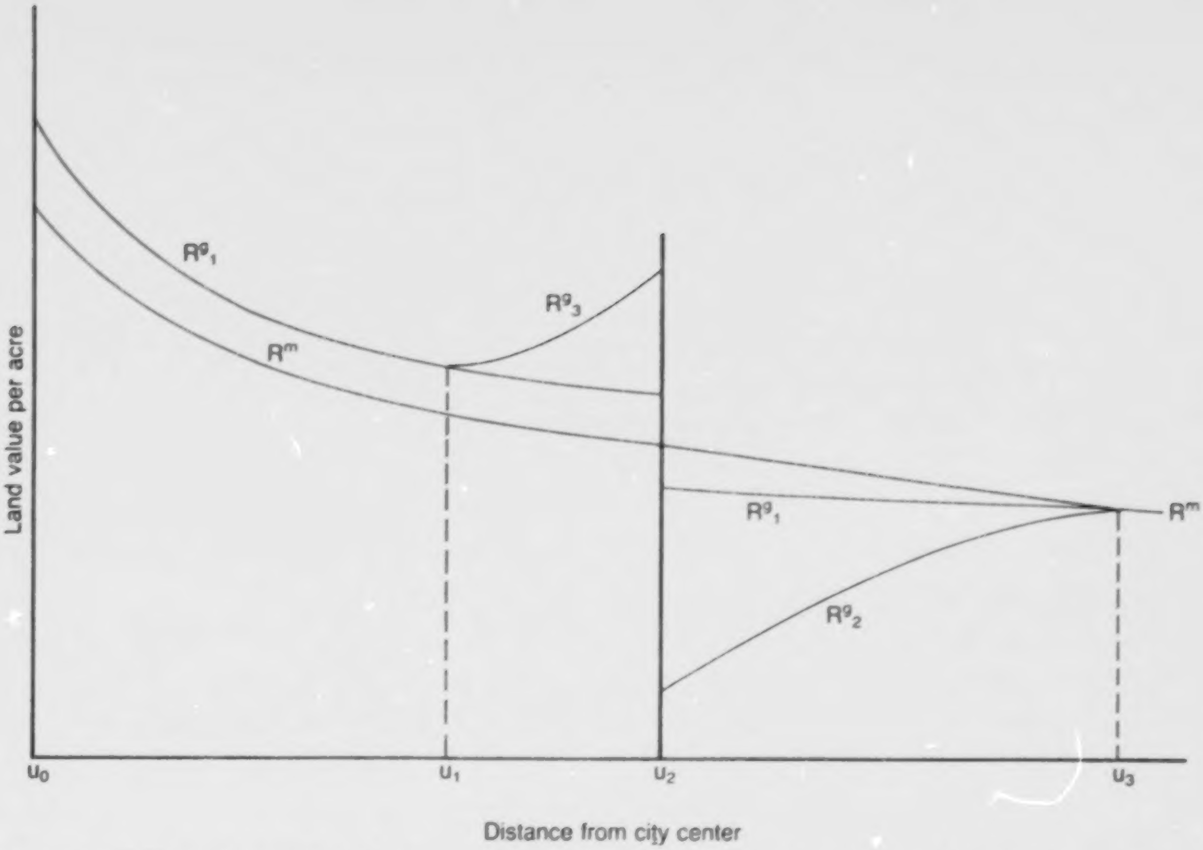


Figure 1. How an urban containment program affects regional land values at the urban fringe

An urban containment program should influence land values in three specific ways. First, consider that R^m represents the unrestricted continuum of land values extending from a city center, u_0, into the rural landscape, and R^g_1 represents the continuum resulting from the same forces that affect R^m plus the incremental influence that an urban growth boundary has on land values. The effect of an urban containment program should be to deny rural land of urban uses and constrain the supply of urban land. Since the value of rural land at distance u_3 should shift downward while the value of urban land at distance u_1 should shift upward, a gap in the otherwise smooth continuum of land values should appear at the urban growth boundary, u_2.

Second, when an urban containment program applies greenbelt zoning to rural land beyond u_2, it should prevent speculation of rural land. According to Boal (1970), the area between R^m and R^g_2 represents the speculative value of rural land for urban uses. Since the purpose of greenbelt zoning is to prevent speculation of rural land beyond u_2, the resulting continuum of land values should become R^g_2, which represents the value of land solely for its use as farmland. This unusual continuum is called Sinclair's gradient, since it was Sinclair who formally theorized that rural land becomes less valuable for agriculture the closer it is to urban development (see text). As farmers gain confidence in the permanency of greenbelt zoning, they will increase their investments into the land, making it more productive. Over time, R^g_2 should shift upward as the value of rural land for agriculture increases, but its shape should remain unchanged since nearby urban development will continue to negatively affect rural land.

Third, when greenbelt zoning is applied to rural land beyond u_2, and when urban development extends to the urban growth boundary, the value of urban land near the greenbelts will become represented by R^g_3. This apparent mirror of Sinclair's gradient occurs when greenbelt zoning of privately owned rural land generates open space benefits, such as views and privacy, that are exclusively enjoyed by nearby urban land (see text).

By merely observing how the land market responds to the presence of an urban containment program, we may infer several important conclusions about a program's effectiveness. For example, if an urban containment program does not result in a gap in the continuum of urban and rural land values at the urban growth boundary after about the third year, one may conclude that the program has not shifted the demand for urban land from the rural landscape into the urban area. Second, when a program applies greenbelt zoning extensively throughout the rural landscape, we should find that speculation of rural land has been prevented and greenbelt land is being traded only as agricultural land in the regional land market. We also should find that urban land values proximity to greenbelts as an amenity increment, even if greenbelts remain privately held. On the other hand, if large-lot, low-density residential zoning is applied to rural land instead of greenbelt zoning, then we should find that rural land is being traded for its value as low-density urban land and that speculation has remained in the rural land market. Over time, these large-lot developments either will become exclusive estate districts or will be converted into higher-density urban developments—and in either case we could not say urban sprawl had been contained.

Raymond J. Supalla and Andrew K. Dragun. **Some Policy Alternatives for Preserving Prime Agricultural Land in Rural-Urban Fringe Areas.** **January 1977.**
Dona Ana County, New Mexico

- excessive urbanization of agricultural land is the failure of the land market to reflect social concerns:

  (1) desire to improve environmental quality by maintaining green belt areas around cities
  (2) need to reduce public service costs by discouraging scattered residential development in rural/urban fringe areas
  (3) agricultural land may be needed.

Theory

Under the price mechanism of a freely operating market, land shifts over time from agriculture to higher valued urban uses. If the market values established by individual buyers and sellers reflected all social costs and benefits, market values and social values would be the same, and no land use problem would exist. Unfortunately, buyers and sellers of land rationally do not consider the needs of future generations or the environmental quality and public service costs imposed on other people because there is no economic incentive to do so. This means that social values are often quite different from market values and therefore public action is necessary if land is going to be used for socially optimum purposes. The divergence between the market and the social values of land also means that planning actions which encourage the use of land for more socially valuable uses will change the market value of land.

The size of these land value changes is probably the most important question associated with policies for maintaining agricultural land. Policies which prevent development of agricultural land must either forbid landowners from using land for its most profitable (highest value) purpose or provide subsidies which make agricultural use the most profitable. If the policy simply forbids development, e.g. zoning, agricultural landowners who are prevented from developing their land suffer losses equal to the differences between urban and agricultural land values. If some form of subsidy is used, e.g. purchase of development rights, the size of the required subsidy is equal to the difference between urban and agricultural land values. Land values are therefore of central importance in any assessment of alternative land-use policies.

Evaluation of Policy Alternatives

1. Zoning - regulates land use directly, providing the distribution of gains and losses associated with zoning are politically acceptable. It reduces land value for the restricted landowners and provides others with a windfall gain. p. 8.

   If zoning is to be an equitable and politically feasible tool for preventing urbanization of agricultural land, it must be accompanied by a means of compensating losers. Either a mechanism must be established whereby gainers compensate losers, or public monies must be used to compensate losers. Where restrictions are placed on high-quality agricultural land and development subsequently occurs on land which is of lower quality for agricultural use, it would be theoretically possible for gainers to compensate losers in full and still be better off. p. 8.

2. Transfer of Development Rights - - administrative problems
   - The benefactors of a zoning change compensate the losers by purchasing the loser's right to develop.

3. Public Purchase of Development Rights - very expensive.
   - feasible only for high priority areas.

4. Differential Property Taxation
   (a) preferential assessment - tax agricultural land at its agricultural use value, not market value, until converted.
   (b) deferred taxation - taxes assessed on market value, but farmer only pays agricultural use value and defers remainder until development occurs.
   (c) restrictive agreements - landowners agree to maintain a given land use for a period of time in return for agricultural value tax assessment.

- Effectiveness of these in controlling land use depends on how much incentive they provide for keeping land in agriculture.

- A tax policy which reduces taxes on agricultural land increases its agricultural-use value relative to urban values and consequently reduces the incentive to urbanize. p. 10.

S.I. Schwartz and D.E. Hansen. Two Methods for Preserving Agricultural Land at the Urban Fringe: Use-Value Assessment and Transferable Development Rights. 1976.

° Goal must be to reduce urban sprawl (two methods examined to see how effective as a land use control measure at the urban fringe).

Case Study - Use-Value Assessment of Agricultural Lands - the California Land Conservation Act.

° Contract by counties and cities with landowner by which the landowner agrees not to develop his land for a specified minimum period (10 years) in return for tax inducements

  - find that because enrolled lands are removed from the potential supply for urban housing, that enrollment near urban areas could cause increased urban sprawl.
  - found that enrollment behaviour is strongly related to development expectations.
  - despite rather high levels of benefits low enrollment in the program due to landowners being overly optimistic about future price appreciation possibilities (doubts the realism of development expectations of landowners at the rural-urban fringe).

> "Based on assessment values, if an enrollment decision had been made in 1962 with full knowledge of 1962-1973 land prices and assuming a moderate rate of increase thereafter, acceptance of the contract would have been the correct decision for at least 80% of the parcels in the study area closest to downtown Sacramento. By contrast, less than 2% of these parcels were enrolled." p. 171.

Transferable Development Rights

° Transfer of development density from undesired to desired locations (compensation for retaining land at the lower density).

- Program requires a well-drawn land-use plan and firm adherence to that plan.

- Perpetual easements owned by the government and can be resold at some future date - control over the location and timing of future development as well as public capture of increases in land value.

  Steps:

  (a) designate a transfer district
  (b) allocation of development rights
  (c) method of transfer of development rights (government exchange, bank)

- Success of program lies in providing sufficient incentive (i.e. need to prohibit development in preserve zone).

William G. Lesher and Doyle A Eiler. **Farmland Preservation in an Urban Fringe Area. An Analysis of Suffolk County's Development Rights Purchase Program.** **March 1977.**

"Use value assessment appears to allow a more orderly conversion from agriculture to urban development by facilitating the continuation of agricultural production on the land until it is actually needed for non-farm purposes." p. 2.

- Program acquired development rights on only about 1/4 of the agricultural land in the County. Balance can be developed.

- Encourages development of small country estates on land now in agriculture (very little of the potentially developable land included in the program). p. 23. "The development rights will cost much more than the present value of the estimates of public service cost savings."

- Not useful and too expensive.

Staff Environment Group. Corporation of the District of Saanich. Land Protection Analysis. 1978.

- looks at preserving environmental areas.

Suggests the municipality:

- Undertake a program of land acquisition
- leasing with options to buy
- purchase and lease back to owner
- purchase granting lifetime estate to original owner
- purchase of development rights.

Chris Cocklin and Barry Smit. **A Method to Assess the Implications of Future Urban Expansion on Rural Land.** **June 1982.**

"Scattered urban land uses such as rural residential development have impacts on agricultural land. Apart from the actual removal of land from traditional agricultural uses, this type of development has been found to adversely affect agriculture through farm fragmentation, increased taxations for farmers, adoption of nuisance laws, trespass and vandalism, and increased land prices (Rodd, 1976b; Brown 1977; Bryant and Russwurm, 1979)." p. 30.

The greatest concern with rural to urban land conversions has been expressed over the impact on agriculture.

Model for calculating land areas required for urban expansion.

Robert A. Johnston, S. Schwartz and S. Tracy. "Growth Phasing and Resistance to Infill Development in Sacramento County". APA Journal, 1984.

Summary

- ° Study indicates that growth phasing is easier to accomplish than infill development.
- ° 1973 GMP showed urban service boundary, phasing of growth balance into agriculture preserve.
- ° Plan's objectives were to maintain agricultural economy and reduce servicing costs.
- ° Residential uses restricted to land serviced with sewers and roads or could be economically serviced in the near future. Lands were designated for urban development for an 18-year period.
- ° Phased development promotes the efficiency of public and private services by reducing road, wire and pipe lengths and driving distances per dwelling." p. 436.
- ° It is more difficult legally and politically, to mandate or encourage 'infill' development than to prohibit noncontiguous projects. As Frieden (1978) observed in the San Francisco Bay area, developers shy away from infill projects because of neighbourhood opposition. We found the same behaviour by developers in Sacramento County (McCormick, 1982). They preferred to build beyond the existing urban area, even if the provision of services for their project was more costly. p. 443.
- ° "exclusionary behaviour" of infill area residents.

Department of Landscape Architecture, University of Oregon. **Cottage Grove: A Case Study Examining Urban Growth on the Fringe**, **1979.**

"To some developers, rehabilitating, upgrading, infilling and renewing existing urban areas is more costly than developing land "on the fringe". The costs related to tearing old structures down and then having to rebuild are high compared to just building on the fringe." p. 4.

Planning Scenario (res.)

(a) population/density distribution
(b) related land use activities
(c) geographic boundaries

Seven Categories - Development Sieve Map Procedure

(a) Hazard Areas - Areas Dangerous
(b) Development Problem Areas
(c) Resources Areas - Future Protection or Conservation
(d) Existing Developed Areas.

- constraints to opportunities for urban development

Findings: Land Plan to Sieve Models

The Land Plan to Sieve evaluations is useful for understanding how potential development pressures differ between a relatively low density and a high density scheme. (The major difference is in the number of cells programmed to be developed in low density housing. The number of cells to be allocated to non-residential land uses is otherwise the same.)

"It therefore follows that the "odds" of impacting greater areas of land are higher where density is lower. Higher density schemes impact potentially less area." p. 206.

As our population grows, as our needs and aspirations change or as the contexts within which we live evolves, the ability to still be able to recognize and make wise choices remains fundamental (managing our land). p. 231.

THE PURPOSE OF THIS CASE STUDY OF COTTAGE GROVE WAS TO RESEARCH METHODS AND TOOLS WHICH ENCOURAGE AND ENABLE PEOPLE TO INTERACT WITH COMPLEX LANDUSE PLANNING ISSUES. OUR WORK DEMONSTRATES THAT IT IS INDEED VERY POSSIBLE TO INVOLVE INTERESTED CITIZENRY, THEIR ELECTED OFFICIALS, PLANNING AND DESIGN PROFESSIONALS AND UNIVERSITY RESEARCHERS IN THE PLANNING PROCESS.

FOUR ROUNDS OF PLAYING THE LAND PLAN GAME

During the course of this study four rounds of the LAND PLAN GAME were played. Each game provided an exciting environment for the players to assume roles, compose planning goals and strategies and make thoughtful, though hypothetical planning decisions. As participants tried planning for increased population growth over various time increments they realized that making wise decisions is dependent upon knowing what's at stake, and which values are important. The Land Plan Gaming process lured participants into identifying and discussing important issues about such things as the:

A. CAPABILITY OF THE NATURAL ENVIRONMENT TO SUPPORT NEW URBAN GROWTH,

B. THE COMPATIBILITY OF NEW URBAN GROWTH WITH EXISTING AND PROPOSED SOCIAL/CULTURAL STRUCTURES,

C. THE ECONOMIC FEASIBILITY OF ACCOMODATING NEW GROWTH CONSIDERING, FOR EXAMPLE, CONSTRUCTION, INFRA-STRUCTURAL AND ENERGY COSTS.

DEVELOPMENT OF A RETRIEVABLE, EXPANDABLE AND REPLICABLE DATA BASE

A very significant derivative of Land Plan Gaming was the development of a retrievable, expandable, and replicable data base. Each round challenged the information already available and identified further data needs. In all, including the base data gathered during the first phase (Fall '77) the Development Sieve Mapping Procedure and game evaluations, (generated Spring '78), about 70 items of information for the study area have been collected and stored in drawing and computer forms. Nearly a quarter million pieces of information are stored in our computer data bank. Reports describing existing Cottage Grove patterns of residential, industrial and commercial, institutional development, energy, agriculture and forestry, and transportation have been written (though not published) and are available from the Department's library.

B. URBAN-INDUSTRIAL AREAS

Build up areas of cities, towns, villages, and industrial and commercial sites. (Includes residential areas with a density > 1 du/acre)

C. LINKAGE AND CIRCULATORY SYSTEMS[*1]

Infrastructure - access-water-sewerage, highways, roads, railroads, ports, utility lines and R/W's etc.

V. BASIC FORMULA FOR DEVELOPMENT ANALYSIS --

DEMAND MEASURES LOCATIONAL ADVANTAGES (TIME AND DISTANCE TO POPULATION AND ACTIVITIES, TRANSPORTATION COSTS)

Total Land

(-) Hazard land (where cost of damage/cost to cure > 1; then cure and use)
(-) Existing developed land (cost to convert)
(-) Key resource land (cost to replace)
(-) Most development problem land (cost to convert and maintain)

Yields: Developable or Buildable Land (measures available supply)

IN URBAN AREAS: TRADE-OFF AREAS

(Development problems land + existing developed land)

IN RURAL AREAS: TRADE-OFF AREAS

Development problem land + resource land)

Based on value system whether economic or social (ecological) and whether short-term or long-term benefits desired.[*2]

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*1NOTE: For analyzing possible location of future industrial and commercial sites lay out 1 mile swath each side of major rail, highway, particularly at crossings and interchanges of freeways.

*2NOTE: LONG TERM BENEFITS ARE CONSIDERED TO BE PRIMARILY PUBLIC BENEFITS.

4.0 STUDIES AND REPORTS PREPARED BY URBAN MUNICIPALITIES

City of Halifax. "The Regional Context of the City of Halifax Economy." Discussion Paper No. 1, City of Halifax Planning Department. April, 1983.

- 1970's -- marked the reversal of the process of urban concentration. A new trend of metropolitan decentralization arose with the development of towns, villages, and new communities as urban suburbs removed from cities.

- Regional plans tended to view land requirements for urban growth as substantial -- planned for the development of fringe areas in order to accommodate anticipated population additions. p. 7 -- These plans accentuated the phenomenon and for cities at the centre of these regions the result has been substantial depopulation. Inner cities have been typified by population losses averaging 12.2 percent in the 1971-76 census period.

- For cities such as Halifax this has led to problems with contraction of tax base, reduction of grants from senior governments and under-utilization of existing infrastructure. In general, in Nova Scotia, it has meant significant costs to all taxpayers who pay for the redistribution of population through Provincial subsidies for housing and related services. p. 8.

- Slow growth -- an extra margin in capacity of service systems can result in expensive, unnecessary overhead. p. 8. Shifts in demographic structure and the concomitant impact on location and housing preferences become relevant.

- Trend of falling population and rising household formation -- tendency for older population/young people starting careers to cities and those forming families to migrate to the County. p. 15.

- City also affected by the outward drift of economic activity in the region.

- The consequences of structural changes in the City's economy combined with its declining population are outlined in the recent presentation of the City to the Public Utilities Board in support of the successful application to annex lands from the County of Halifax.[14] Based on evidence similar to that presented above, the City asserted that activities of the Provincial Government play an important role in decentralization and that this has had a detrimental effect on the citizens of Halifax. The loss of population and especially economic activity has eroded the City's tax base, while the demand for municipal services has remained more or less constant. As a result, Halifax has a high residential tax rate and the highest business tax rate in Canada.[15] Indeed, business taxes are so high as to discourage commercial and industrial development.[16]

- It is demonstrable that this is not a favourable tendency for the region as a whole. The construction of new schools in the County even as sound school buildings in Halifax are closed, the provision of new roadways, the subsidization of land development, and the costs of other essential services in newly developed areas are borne by taxpayers in Halifax and Dartmouth and across Nova Scotia, as well as by residents of the County.[17]

- The Province of Nova Scotia has taken an active role in encouraging decentralization in the region. The bulk of new residential development in the County has been constructed on Nova Scotia Housing Corporation land assemblies in Sackville and Cole Harbour. The NSHC provides cheaper land and subsidized mortgages in these areas that, along with lower County taxes, attract young families from the Cities.

- The ability of the County to maintain low tax rates is also to a large degree attributable to the Province. As a recent report for the Province of Nova Scotia by Clayton Research Associates points out, substantial subsidies in the areas of police protection, transportation services, and fiscal services (primarily education costs) diminish the County's tax burden relative to Halifax and Dartmouth.[18] The difference between City of Halifax and County of Halifax expenditure per capita in these three categories was $307.51 in 1979[19] or 81.3 percent of the total difference between per capita expenditures shown on Table 7.

- In short, the costs of development in the County are substantially covered by the Provincial Government, while the Cities are required to pay their own way. This is clearly reflected by the tax rates prevailing in local municipalities in Table 9. In order to meet greater responsibilities, the Cities of Halifax and Dartmouth levy residential tax rates more than twice the County base rate and business taxes two to almost three times the County rate. This is a substantial inducement for development in Halifax County.

- An example presented before the Public Utilities Board in support of annexation: The assessed value of land for one of the few remaining large industrial-type operations on the Halifax Peninsula is $6.15 per square foot, compared to $1.10 per square foot for good serviced land in the Burnside Industrial park in Dartmouth. The total difference in assessed land values between the existing lot in Halifax and a lot of equivalent size in Burnside is nearly $960,000. The difference between taxes paid annually on land would be approximately $60,000 more in Halifax based on 1981 rates. The difference in annual taxes paid on buildings and business occupancy taxes paid on equipment would be more than $30,000 and $50,000 respectively. If the alternate location were in the County of Halifax rather than Dartmouth, the disparity with the City of Halifax would be increased by about 25 percent. In other words, if this plant were to move from the City of Halifax to an optium tax location in the region, it could expect to save close to $200,000 every year.[21] This disparity obviously places the City of Halifax at a disadvantage in retaining existing population and employment; and in attracting new development -- particularly economic development.

Problem: City has not enjoyed the degree of benefits commensurate with regional growth.

- The recent re-establishment of the City of Halifax Industrial Commission and the annexation of lands in Halifax County are measures to address part of this problem. The annexation, which is currently being appealed to the Provincial Cabinet by the County, provides the City with an area in which to develop an industrial park as well as additional lands in which commercial, office, residential, or recreation developments might be considered. The City does not presently have an industrial park in which to offer developers appropriate sites for construction of factories or warehousing. The annexed land will allow the promotion of Halifax as a suitable location for all types of new industry and allow the City to offer alternative sites for existing businesses on the Peninsula that must move. Similarly, commercial enterprises other than industrial uses not attracted to the City at present may be accommodated on some suitable sites in the annexed lands that are not to be developed as an industrial park.

- Higher level of services expected in a major city will maintain tax rates in Halifax at levels above counties and towns in Nova Scotia, but the disparity cannot be allowed to be so great as to draw development away from the City. p. 33.

City of Halifax, Planning Department. Population and Housing Characteristics for the City of Halifax and Region. Discussion Paper No. 3. Revised Feb. 1984.

Trends:

- Growth in number of households (with decreasing household size).

- Population increased in County and decreased in City.

City of Montreal

Development Plan. August 1986. Communaute urbaine de Montreal. Service de la planification du territoire.

- The municipalities of the central zone have been experiencing repercussions from the urbanization of outlying sectors. Their development is progressing much more slowly and they are confronted by problems resulting from partial disuse. p. 15.

- Deconcentration re: housing, industrial and commercial activity to fringe areas.

- Travel of communter trips harming the quality of life in the downtown district. p. 30.

The Development Strategy:

In the oldest sectors of the Central Zone, there is a considerable population decline, a certain deterioration of housing, a loss of industrial and commercial vitality and under-utilized facilities, on the other hand, the downtown area continues to expand and to play an ever-increasing role in the community and the urban region in terms of office activities and important socio-cultural facilities.

In the outlying sectors, the rapid increase in population, the growth of industrial and commercial activities combined with a great concomitant demand for facilities and infrastructures often triggered discontinuous urban development.

In light of this situation, the Communaute urbaine de Montreal has accepted a two facets option as its development choice: the first proposes to consolidate and structure the urban fabric of the outlying sectors of the community within the perimeter of urbanization; the second calls for revitalization and revalorization of the Central zone. The two facets are complementary, that is, development of the outlying sectors must be carried out simultaneously as the Central zone is rehabilitated and the downtown area developed.

Housing

- promote densification around mass transit stations
- consolidate residential development as a continuation of the existing urban fabric.

Sequence of Development:

This map shows the residential zones to be developed on a priority basis. They are generally located within, or just outside, existing residential developments which they serve to consolidate and are, for the most part, already provided with sewers and water mains.

A municipality must have developed the major part of sectors identified as "priority development areas" (zones a developer en priorite) on this map before going on to the second development phase, where the remaining vacant spaces designated for housing in the development plan may be urbanized.

Beyond the perimeter of urbanization (perimetre d'urbanisation), there is a rural zone which could be urbanized once all other development phases have been completed.

Cadastral operations within sectors without services or with partial services.

Minimum Standards:

In the sectors identified on the map of land occupancy constraints (Constraintes a l'occupation du sol) as a "permanent agricultural zone" (zone agricole permanente) and as "sectors which are or are being urbanized, with or without services" (secteurs urbanises ou en voie de l'etre, avec ou sans services):

Cadastral operations on tracts of land without sanitary sewer service or water main and partially serviced, be it by a sanitary sewer system or a water main, shall be made subject to the following minimum standards:

	Minimum area	Minimum width (frontage)
Land with partial services	1,500 m^2	25 m
Land without services	3,000 m^2	40 m

p. 113.

City of Winnipeg, Department of Environmental Planning. Preliminary Report of the Additional Zone Review Committee on Planning and Decision Making in the Urban-Rural Fringe of Winnipeg. February 1977.

"The Additional Zone was conceived by the Greater Winnipeg Investigating Commission in 1959 and was established in 1961 to give metropolitan Winnipeg development control approximately five miles beyond its corporate boundaries. Planning authority was extended to the Corporation for this area as a tool to regulate urban sprawl on its boundaries. Most will agree the Additional Zone has served its purpose in restricting urban sprawl beyond the immediate urban area. However, from a broader perspective it has only displaced the phenomena of urban sprawl to the edges of the Additional Zone. The rural municipalities of St. Andrews, St. Clements, Ritchot and Tache are testimony to the leap-frog movement of urban sprawl beyond the Additional Zone or the city's planning jurisdiction."

The Additional Zone includes approximately 400 square miles within its boundaries.

"In essence on all major decisions the local municipality and the City of Winnipeg share a mutual veto power. In principle this should encourage a close liaison between the two bodies on all major issues. However, in application, it has delayed the implementation of a comprehensive zoning by-law for the Additional Zone and the adoption of district plans. The mutual veto power has become a very strong incentive to maintain the status quo and informalize the process of coping with major planning issues and problems. Unfortunately, the public remains poorly informed about planning policy and invariably is confused by the decision process in the Additional Zone."

"For all intents and purposes the City of Winnipeg's planning jurisdiction ends at the Additional Zone's boundaries. The city has enjoyed a good or continuing liaison with municipalities located beyond the Additional Zone. Most notable are St. Andrews and St. Clements. Both were partially included within the Additional Zone in the beginning, but later opted out. The lack of liaison between the city and these two municipalities has been regretable. Both St. Andrews and St. Clements have been the recipients of much of the urban sprawl which has leaped over the Additional Zone. A positive step has been initiated, however, by the fringe Municipalities in the creation of an Association of Additional Zone Municipalities. Participation in the Association has been extended to and accepted by St. Clements and St. Andrews. The Association provides an opportunity for municipal councillors to meet regularly together and discuss issues of mutual interest and concern.

It is encouraging to note that those municipalities which are partially included within the city's planning jurisdiction have or are attempting to adopt a planning policy complementary to that applied by the City of Winnipeg."

Planning outside the Additional Zone comes under the purview of the Provincial Department of Municipal Affairs.

"The existing jurisdictional and decision-making arrangements in the Additional Zone are perceived by local councils to cause two general tvpes of problems. For those municipalities which are only partly included within the Additional Zone the major problem is caused by the division of planning jurisdiciton between the city and the province. Symptoms of split jurisdictions are inconsistency and possibly incompatibility of land use policies; different and distinct decision-making procedures; variations in building requirements and development control. One area that is found to be particularly troublesome is dedication. With the Additional Zone, municipalities may collect a minimum dedication of 10% in land or money in lieu of land. Outside the Additional Zone these same muncipalities may collect a maximum dedication of one acre for each 100 people expected to occupy the area being subdivided or the equivalent value of the land in cash. In most cases, regulations imposed in the Additional Zone permit the local municipality to collect much more dedication for public purposes."

The desire to be consistent within a local municipality is as strongly held as the desire to apply a consistent policy throughout the Additional Zone.

"Prior to the summer of 1974, all lands in the Additional Zone, save specified villages, were designated "Areas of No Urban Expansion". In 1974 the city adopted an amendment to the Greater Winnipeg Development Plan which made available approximately one-sixth of the Additional Zone or 68 square miles for potential limited urban expansion."

"The designation of areas for "Limited Urban Expansion", without sufficient supporting information, has in many instances raised prematurely and regrettably, the expectations of property owners.

The "Limited Urban Expansion" designation was perceived by many land owners as a promise that land subdivision would be approved. Designating approximately 68 square miles for limited urban expansion created a very significant speculative bubble."

"...perhaps the best index for measuring the city's success in controlling urban sprawl within its planning jurisdiction is the dramatic leap made by development beyond the Additional Zone. Springfield, St. Andrews, St. Clements, Tache and Ritchot have succumbed to extraordinary development pressures over the last three years. This should not suggest the city is so much better at planning than the province or these municipalities. What it does suggest is that the existing arrangements for planning in the urban/rural fringe do not have the scope to effectively deal with the whole of the contemporary problems attributed to the spread of urban development beyond the solidly urban area."

"In 1975 the City Planning Department prepared a report on external boundaries for the City of Winipeg. It was conceived and prepared amid the circumstances existing at the time. It stated responsible judgments on the appropriateness of a boundary adjustment are not possible unless they are assessed in the context of local government's ability to fulfill its objectives of service and access. Briefly access was equated with the public's capacity to influence public policy decisions and to enforce a responsive and responsible administration. Service was equated with the economical discharge of public functions and the achievement of technical adequacy necessary to fulfill public needs and desires.

Generally, the recommendations contained in the report suggested that as areas come to display an urban character or when they form a logical extension to the urban area, they be included within the City of Winnipeg."

"Proposed planning districts like Selkirk, St. Andrews and St. Clements will be as ineffective in controlling sprawl as the City with its Additional Zone. Independently, neither are able to integrate a solution to fit the breadth of the problem. The writer suggests regional planning can only be effectively implemented when regional development problems are recognized by local municipalities and the Provincial Government as being highly interdependent and require the integration of analysis, understanding and policy solutions.

Manitoba Department of Municipal Affairs. Land Division in Manitoba. Study of Selected Towns and Rural Municipalities. 1975.

- pressure for land division appeared to be limited to areas that offer a reasonable living environment and which are located on major traffic arteries within a commuting distance from Winnipeg. p.4.

- The percentage of lots developed was considered to be significant as approval of a plan of subdivision requires the applicant to show that the land is required for building or other development purposes, within a reasonable period of time. Of the 1256 lots that have been registered 498 or 40% have been developed but 60% remain undeveloped. p.26.

- In addition to the lots that have been registered, the study identified applications for Plans of Subdivision not yet registered but under review...there were 46 plans containing 1501 lots. p.28.

Winnipeg Regional Municipalities Committee. Report on Land Use Policies and an Administrative Structure for Planning in the Winnipeg Region Study Area. 1975.

- study of a 30-mile radius around City of Winnipeg re: growing demand for rural residential subdivisions in this commuting area.

- goal: to establish policies to optimize the land use pattern of the area.

Manitoba Department of Municipal Affairs. Winnipeg Region Planning Study: Demand Analysis. 1974.

- commuter belt - 45 minutes travel to work time.

- rural non-farm population is most dynamic element in Winnipeg Region.

- The increasing demand for rural residential land may have serious consequences for the future pattern of development surrounding the City. The market for land close to the City may drop off if prices continue to rise at the rate experienced in recent years, and "leapfrogging" may occur, whereby development by-passes this land for cheaper land further out. Such an eventuality would merely extend the area currently experiencing rural - urban land use conflicts.

- The Additional Zone municipalities have planning responsibility only outside the Zone. Within it they retain their normal municipal functions (such as operation and maintenance) but planning authority including zoning and subdivision control, lies within the City of Winnipeg. The provision of this control is provided for in the City of Winnipeg Act and beyond consultation extends to the municipalities having three Councillor representatives who sit on the City's Environment Committee.

- In 1968 the Metropolitan Corporation of Greater Winnipeg designated the whole of the Additional Zone, except the existing villages, as an area of "No Urban Expansion". This development plan was ratified by Provincial Statutes under the City of Winnipeg Act in 1972. Shortly thereafter, however, the Province decided to permit only those individual conveyances in the areas of "No Urban Expansion" which were in accordance with the development plan. In 1973 an amendment was made to this plan which removed the "No Urban Expansion" in certain areas and provide for limited urban development subject to land use and subdivision controls based on suitability for residential development.

City of Winnipeg. West St. Paul Community Plan. Information Report No. 1. Determination of a Settlement Policy. 1978.

° To determine how the community has been shaped, one must look at the operation and effects of the market for real estate. The market has one characteristic above all other that has left its stamp on the present form of development in West St. Pual. The real estate market operates through the buying and selling activities of many individuals. The multitude of individual decisions registered are each, in a sense, blind to their cumulative effects. Conventionally, the effects of development had been realized only after it occurred and after a period of adjustment, the Municipality, the School Board, and other agencies supplying services were able to integrate the scattered countryside developments into their service framework and perpetuate the haphazardly formed settlement pattern. The above inefficiencies may have been acceptable amid the affluence of a growing economy. But circumstances are changing, we are entering a period of restraint and low economic growth prospects. We are also confronted by the costs passed on by the development pattern accommodated in years gone by. The most significant expense will be the improvements to the transportation systems made necessary by strip developments along Main Street between Winnipeg and Selkirk. Within West St. Paul alone, the need for improvements to the surface water drainage system to satisfy the wants of rural residents appears to be most pressing and extensive.

The community must decide to what extent it wishes to perpetuate the old ways or if indeed it can afford the costs associated with encouraging the continuation of scattered development. p. 33.

Manitoba Department of Municipal Affairs. Rural Municipality of Springfield Development Plan. Part 1. Background Studies. 1973.

"Additional Zone" - to regulate the haphazard semi-urban development which usually occurs on the fringes of large urban centres.

Effects of Sprawl

- sprawl result of pressure for lower land values in rural areas than land values in City, as well as less restrictive development and land use regulations. p.8.

  (1) Services
  Scattered urban uses in farming areas leads to higher costs of public services. Services such as drainage, roads, street lighting, hydro and telephone are directly proportionate in cost to their length. Studies show that in fringe areas the average frontage per household is about 2 1/2 times that in developed urban centres. p.9.

  (2) Land Assessment and Taxation
  As scattered residential subdivisions locate in farming areas, land values in general tend to increase in the area. The farmer is, by nature of his business, a major land holder. The increase in assessment combined with a general increase in the mill rate due to increased services gives rise to farm land supporting a tax load in excess of the normal relationship between long-term flow of income from agriculture production and property taxation. p.9.

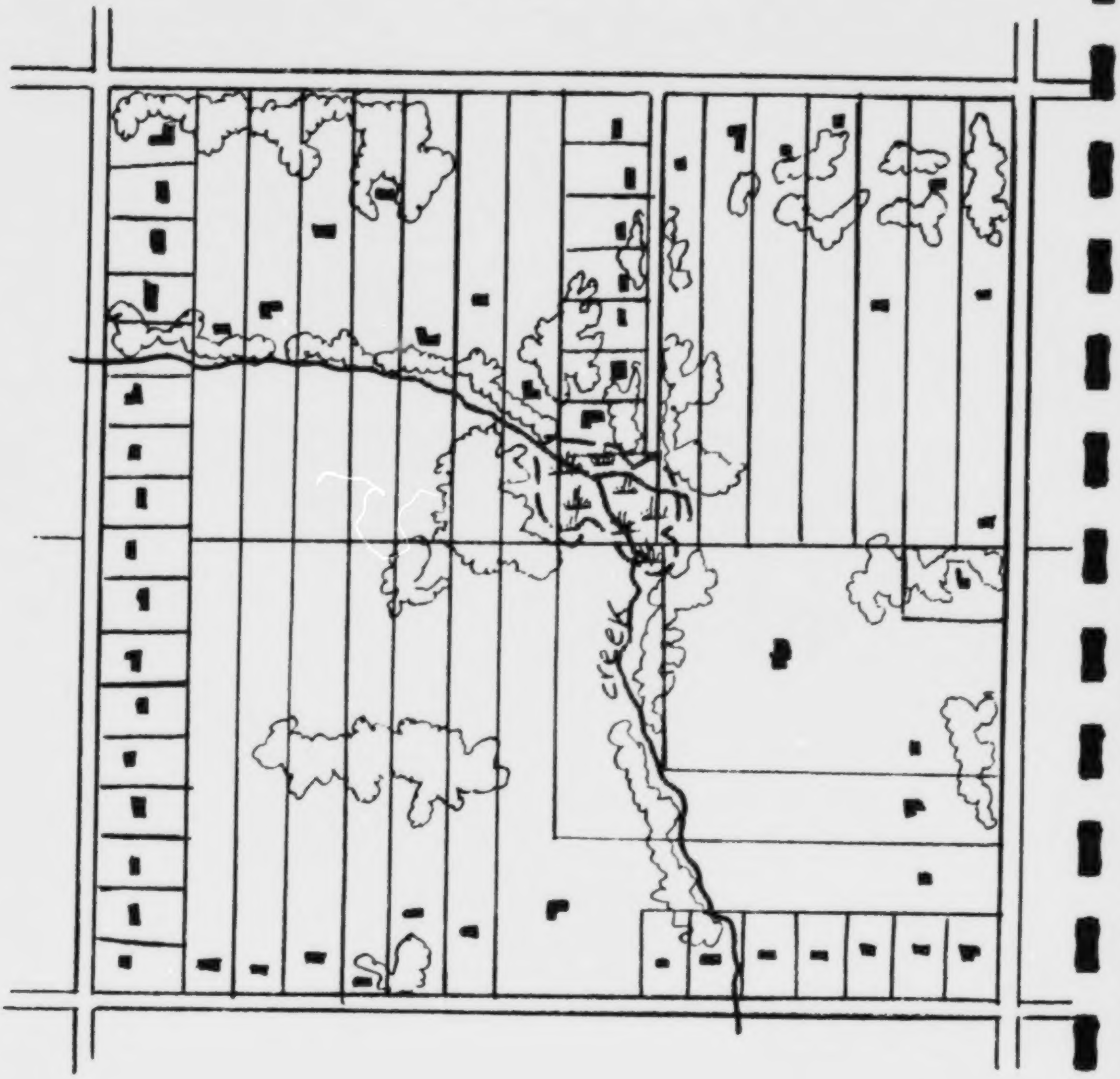
  (3) Administration
  More population, service demands increase which in turn increases the cost of local administration.

  (4) Waste of Land Resource
  Where subdivision of land occurs without direction from an overall plan, can be wasteful for further subdivision for residential use.

"This type of development creates real difficulty for further subdivisions, for infilling of vacant unused land, as well as for expansion of settlements. Appropriate planning for further development has to overcome the difficulty presented by multiple ownership and the established pattern of land development. This situation forces developers to abandon these areas in favour of areas easier to assemble." p.11.

"Rural residential development should be encouraged to locate in designated areas and guided by sound planning principles." p.33.

Extract: Manitoba
Department of
Municipal Affairs

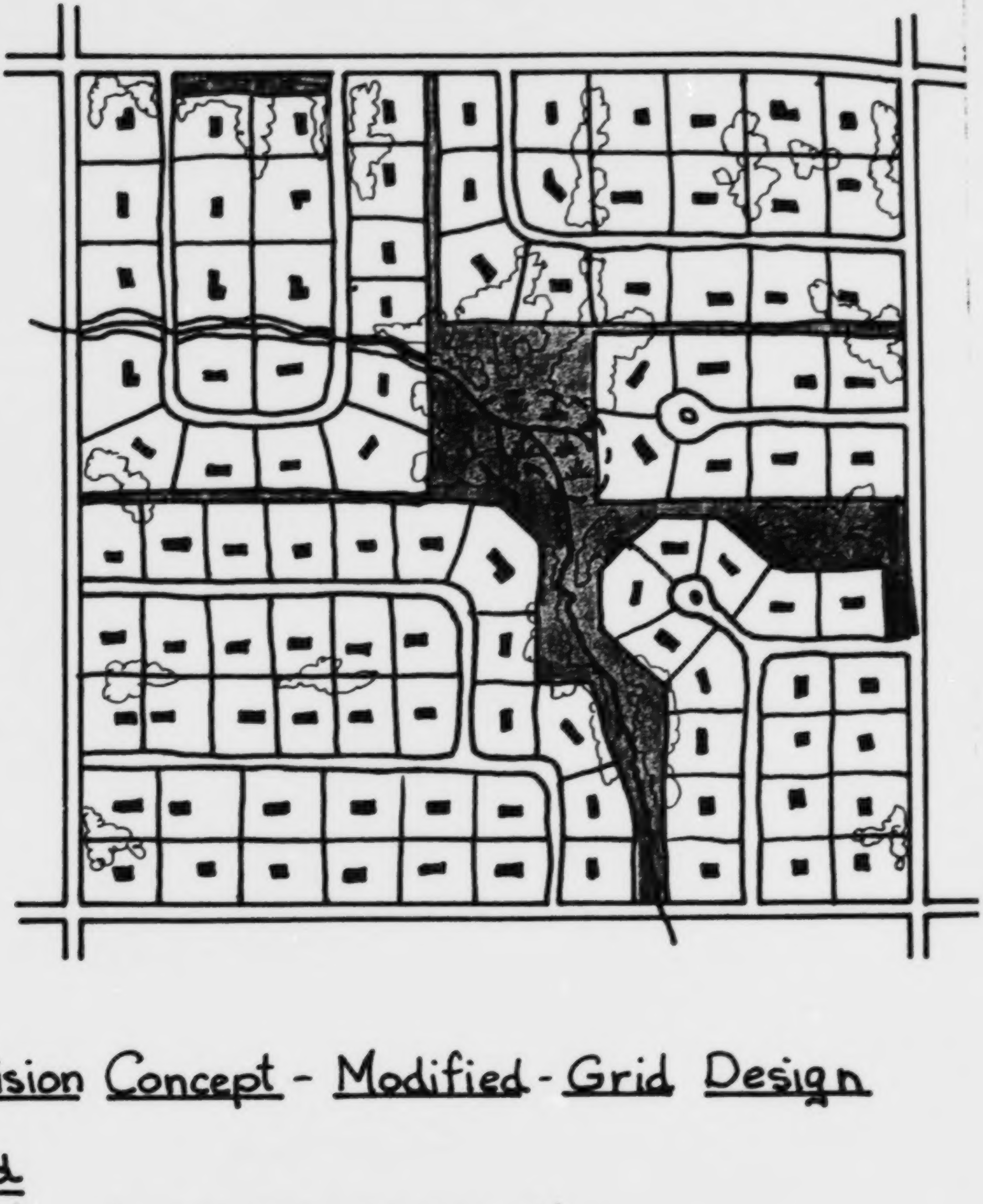


Subdivision Concept - No Planning Input

Legend.

55 lots - residential homes shown thus ■
open space is nil
swamp area shown thus
treed area shown thus

DIAGRAM 5

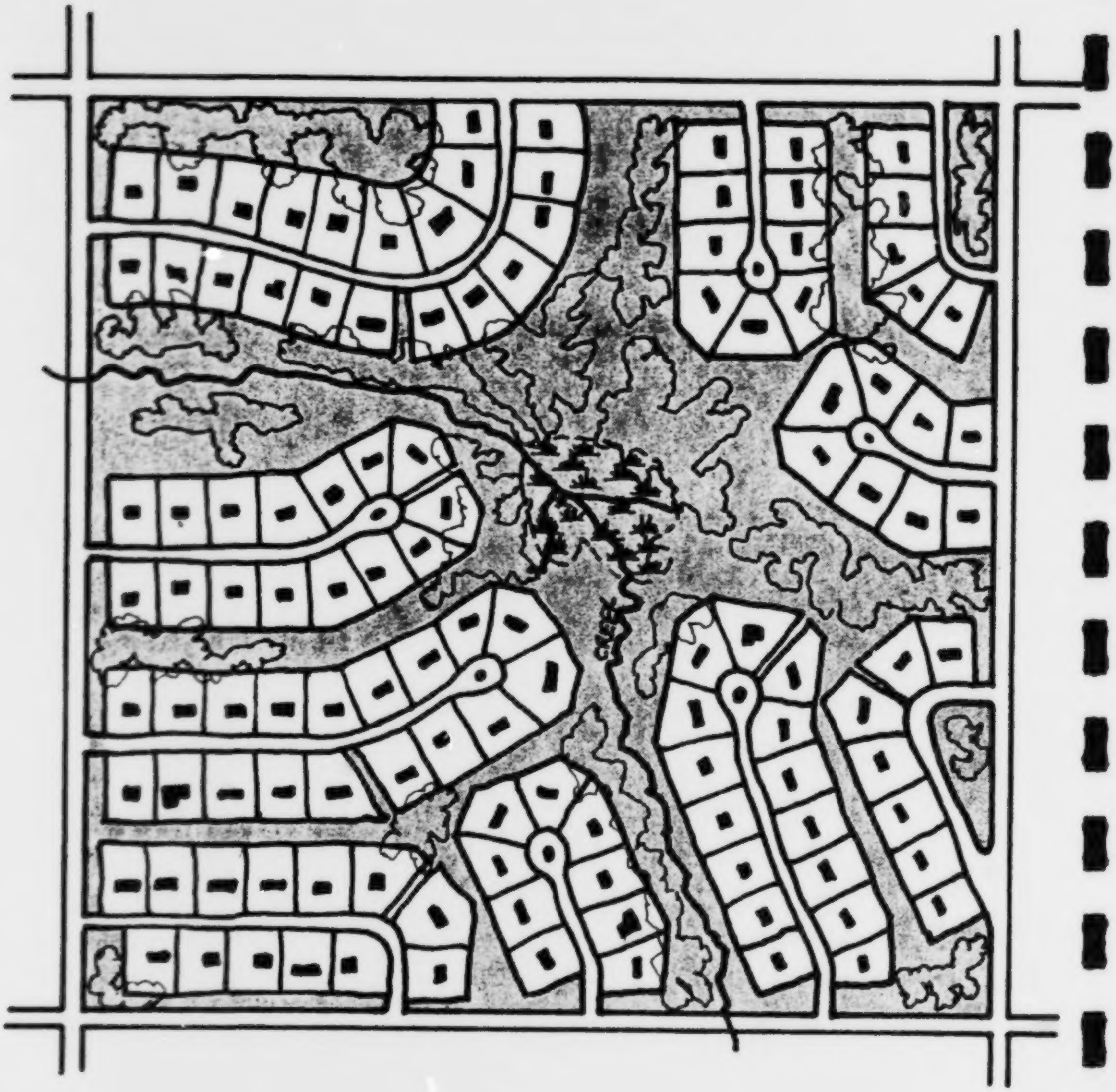


Subdivision Concept - Modified - Grid Design

Legend

101 lots at approx. 5 acre sites.
open space shown thus ▬
swamp area shown thus
treed area shown thus
residential homes shown thus ■

DIAGRAM 6



Subdivision Concept - Cluster Design

Legend

111 lots at approx. 3 acre sites.

open space shown thus ▨

swamp area shown thus

treed area shown thus

residential homes shown thus ■

DIAGRAM 7

Palubeskie, D.O. & Associates Ltd. **Springfield Development Plan Study.** **Towards the Formulation of Goals for Springfield. April, 1979.**

Report discusses survey results in great detail. Nothing applicable.

Palubeskie & Associates Ltd. **Background Report No. 2 Formulation of a Planning Strategy B.M. of Springfield. October, 1979.**

° Springfield's dispersed settlement pattern and dormitory function to Winnipeg have made transportation and communication channels very important to residents. These two factors are the key to the rural-residential phenomenon. As long as a family's economic and social ties can be maintained with the city at the cost of only minimal inconvenience, it can afford the luxury of a rural residence. However, if communication links to the city become more inconvenient, impressions about rural living change. For example, as the municipality adjusts to development, road quality may decrease. The decrease in quality can be attributed to: increased use, lack of corresponding adjustment in maintenance schedules and an expanded road system demanding attention from the same equipment and man power resources. The municipality's response to increasing servicing demands can take two forms or be a combination of both. It can divert expenditures from one service area to another or it can raise additional revenues by increasing taxes. In either case it will cost the rate payer either in terms of higher taxes or service reductions in other areas. p. 34.

Comay Planning Consultants Ltd. Report on Edmonton Annexation Proposal. Prepared for City of St. Albert. March 1980.

Edmonton argument:

(a) A need to control the immediate and long-term development of very substantial areas extending well beyond the City's foreseeable land development requirements. This incorporates also an expressed need to plan and manage the provision of utility and transportation services across the extended area.

(b) A need to rectify perceived inequities in the distribution of fiscal resources.

(c) A need to rectify perceived inequities in the distribution of social costs and benefits across the area. This is expressed also in terms of a concern with the machinery for determining economic and social policy at the municipal level.

Issues of area-wide concern are:

(a) Major Services - Main planning concern is to ensure local planning and development decisions are suitably co-ordinated with the programming of the major services as they are brought into place. p. 19. (can be handled on an inter-municipal basis).

(b) Transportation - Need for co-ordination across municipal boundaries.

(c) Fiscal equality - maldistribution of fiscal resources.

G. Ward, Planner, Alberta Municipal Affairs. Preliminary Evaluation of Proposed Country Residential Sites near Fort McMurray, Alberta. 1976.

3.2 Major Problems Incurred by Country Residential Development.

There are several reasons why country residential development should not be allowed to take place adjacent to existing townsites. The most obvious of these relate to the following problems:

(i) Country residential subdivisions are an extremely space extensive, low density form of residential development. The minimum allowable size for country residential parcels near Fort McMurray is three acres, however a size of approximately ten acres has been advocated. If site A were developed a maximum of 20 parcels could be created (because of public reserves, road allowances, and set backs from river banks, approximately 200 acres would be available for development). This compares to a minimum number of 960 urban sized residential lots (generally speaking only approximately 40% of a subdivision gross area is subdivided into lots; the average urban subdivision has approximately eight lots per net acre). In an area such as Fort McMurray where developable land is at a premium, the creation of 20 lots as opposed to 960 does not appear justifiable.

(ii) Country residential subdivisions constitute a constraint to the future growth of an urban centre. If at a future point in time the land in sites A and B was required for urban expansion, the fragmentation of it into small acreage parcels would impose a severe financial burden on the Town of Fort McMurray if the land had to be re-assembled and subsequently replotted. For this reason, alone, land adjacent to rapidly growing urban centres should not be allowed to be fragmented into small holdings.

(iii) The cost of providing urban services to country residential subdivisions. Although initially planned as being self-sufficient in terms of the provision of basic services such as power, natural gas, and water and sewage systems the residents of country residential subdivisions invariably demand a higher level of urban services. This is especially true in areas such as Fort McMurray where self-sufficiency in terms of water and sewage systems may not be possible. At some point in time, pressure will be exerted on the Town of Fort McMurray to provide these services. Because of the size of the lots the cost of providing them will be prohibitive, consequently pressure may mount to re-subdivide the large parcels in an attempt to increase the density. If allowable this could result in an undesireable form of large lot urban subdivision evolving out of the former country residential development that would be both difficult and costly to service adequately.

ICURR Occasional Paper. The Urban Fringe in the Western Provinces. September 1979.

(A) Julie Glover. Residential/Farm Conflicts: The Work of the Green Zone Committee.

- The primary consideration in the province has been the preservation of agricultural land but the efforts to protect this resource have had, as a secondary benefit, the effect of controlling and managing land use in the urban-rural fringe." p. 3.

(B) Garth Maguire. The Urban Fringe: Perspectives on Land Use in the North Okanagan.

- "As urban land use becomes more dominant in a particular area, applications to convert agricultural land to urban land or urban land-uses increase." p. 19.
- Demonstrates the relationship between urban land-use intensity and the resulting pressure upon agricultural lands.

(C) G.B. Parlby. The Implications of Country Residential Development.

- 62% of Class 1 soils, 21% Class 2, 15.8% Class 3 soils are within 50 miles of a major metropolitan area of the province. p. 29.
- Over time these lands would be subject to either direct or indirect competition for their use as c.r. development. p. 29.
- Much of the prime land is near urban centres.

Nature of agriculture:

- Extensive rather than intensive.

- "Over 70% of the capital investment is composed of land. Under these circumstances, shifts in the price of the land resource will have a significant effect on the exit and entry possibilities for producers." p. 31.

- Complementary production of grain and livestock.

- "In the future, given continued rapid increases in real estate value, repayment capacities for intergenerational transfers will be stretched to the limit. One means open to the farmer to effect transfer may be to capture some of the non-agricultural value in the land, through subdivision for c.r. purposes. p. 31.

- In looking at the implications of country residential developments for the agricultural industry, it is useful to note that Alberta's agricultural production units generally emphasize labour efficiency, high proportions of long-term capital in land, and complementarity between crop and livestock production. Intergenerational transfer problems are likely to increase, as land values reflect a repayment capacity based on alternate uses.

Provincial Land Use Policies: Manitoba

Policy #3 - "Lands may be designated for Rural Residential Development provided the siting and design of such development shall reflect its role as an alternative to the urban lifestyle and not as an evolutionary step towards an urban environment. In addition, the development shall be planned to minimize conflict with resource-related industries and activities."

City of Lethbridge - Land Use Bylaw. Section XV. Urban Reserve District.

(1) Purpose:

For the control of subdivision and development until the required municipal services are available, area structure or area redevelopment plans are approved, and more appropriate alternative districts are applied.

(2) Permitted Uses:

accessory buildings
farms
one single detached dwelling or mobile home on a title existing on November 5, 1984

(3) Discretionary Uses:

animal care, major
billboards[2]
cemeteries
greenhouses
home occupations
parks
resource extraction
second farm dwelling on a less than 32.4 hectare parcel
signs[3]
sports and recreation facilities, minor
tourist information centres
utility facilities

(4) Minimum Parcel Size:

Farms: 64.8 hectares, or the equivalent of an unsubdivided quarter section.

All other uses: as required by the Commission or Development Officer.

Notwithstanding the minimum parcel sizes set out above, the Municipal Planning Commission has the discretion to approve the subdivision of an existing parcel to create a farm with an area of less than 64.8 hectares provided that:

(i) the subdivision is intended to separate steeply sloping land from land suited to a farm operation such as the production of field crops, livestock or dairy products,

(ii) the viability of the farm operation on the residual parcels is not jeopardized, and

(iii) separate title is needed for the parcel comprised of the steeply sloping land to allow its development for a use, other than a farm, consistent with this By-law.

Joint General Municipal Plan. City of Lethbridge, County of Lethbridge. 1984.

Objectives:

- To maintain, within the City boundaries, sufficient land to allow for orderly expansion of all land uses over a substantial period of time. p. 7.

Sample Policies in Joint General Municipal Plan:

- (ix) To ensure that the prime use of developments in the Joint Plan Area is compatible with, and not in direct economic competition with, similar uses within the City, in which substantial investment has been made by the City.

- (x) To achieve co-operation with the County so as to ensure that developmant or subdivision within the Joint Plan Area or adjacent thereto, does not have a negative impact on the future growth and economic development of the City. p. 8.

- 5.03 The County may approve future country residential development, farmstead subdivisions, or cut off parcels on the merits of each individual application adhering to the protection of good agricultural soils and avoidance of fragmented development. p. 13.

- **Greater Vancouver Regional District**-- unable to respond as land use regulations are administered by individual municipalities. Sent a copy of the former official regional plan for the Lower Mainland which was cancelled in 1983. "It endeavoured to deal with the issues of the transition of rural land to urban uses through minimum parcel sizes."

Schedule A. Official Plan for the Lower Mainland of British Columbia. Prepared by: Central Fraser Valley Regional District, Dewdney-Alouette Regional District, Greater Vancouver Regional District and Regional District of Fraser-Cheam. Adopted October 23, 1980.

> "The strategy is to concentrate more growth within the metropolitan area and in existing major valley towns, to locate more of the growth in the Fraser Valley on the north side of the Fraser River and to encourage development to take place in a way that will made efficient use of transportation, water and sewage facilities. The development of an improved transportation system which is integrated with this overall development pattern is also an important component of the strategy." p. v.

> "1966 Plan -- exterted a positive influence effected not only through the limitiations of urban development on farmland, the floodplain and future industrial lands, but also through the requirement that new urban areas be provided with water supply, sewage treatment and other urban services as a condition of their actual development." p. 7.

Problems:

- aging population -- demand for single family housing.
- increasing distance between jobs and workers (dependence on private autos) -- costs.
- pressure for urban development on farmland and floodplain.
- growing demand for recreation and open space.

LOWER MAINLAND DEVELOPMENT CONCEPT

A METROPOLITAN AREA AND FIVE VALLEY TOWNS AND OTHER URBAN AREAS LINKED BY EFFICIENT TRANSPORTATION FACILITIES AND SURROUNDED BY PRODUCTIVE FARMLAND, STABLE RURAL AREAS, AND PROTECTED ENVIRONMENTALLY SENSITIVE AND RECREATIONAL AREAS. p. 16.

LOWER MAINLAND DEVELOPMENT STRATEGY

The strategy consists of nine interconnected elements:

1. PROTECT FARMLAND, FLOODPLAIN AND NATURAL ASSESTS FROM URBAN AND INDUSTRIAL DEVELOPMENT.

2. DEVELOP AND ENHANCE THE USE OF FARMLAND AND OTHER NATURAL RESOURCES FOR THE LONG-TERM BENEFIT OF THE LOWER MAINLAND.

3. LOCATE MORE OF THE TOTAL POPULATION GROWTH WITHIN THE METROPOLITAN AREA.

4. LOCATE MORE OF THE POPULATION GROWTH OCCURRING OUTSIDE THE METROPOLITAN AREA TO THE NORTH OF THE FRASER RIVER.

5. FOCUS FOUR-FIFTHS OF FRASER VALLEY GROWTH IN FIVE VALLEY TOWNS.

6. PROMOTE HIGHER RESIDENTIAL DENSITIES IN THE METROPOLITAN AREA AND THE VALLEY TOWNS.

7. FOCUS NEW COMMERCIAL EMPLOYMENT AND HIGH AND MEDIUM DENSITY HOUSING IN AND AROUND THE METROPOLITAN CORE AND EXISTING REGIONAL CENTRES.

8. IMPROVE THE BALANCE IN THE DISTRIBUTION OF JOBS AND LABOUR FORCE IN ALL PARTS OF THE LOWER MAINLAND.

9. PROVIDE TRANSPORTATION AND PHYSICAL SERVICES IN A WAY WHICH WILL REINFORCE THE DEVELOPMENT CONCEPT. p. 17.

The implementation of the strategy will result in substantial savings of individual and public costs. The primary saving is in the provision of transportation and physical services. It is estimated that the full implementation of the strategy will reduce the total capital cost of necessary major highway transportation facilities alone by 26 percent from about $520 million to about $385 million between 1980 and 2001. Significant savings can also be expected in the provision of municipal arterial streets and in water and sewer services if the region develops in the manner called for by the development strategy. p. 27.

Substantial benfits will result from the implementation of the strategy. The risk of losing irreplaceable farmland and natural assets through urban development will be reduced, while the Lower Mainland's economic diversity and ability to adapt to future changes will be enhanced. There will be savings in public and individual costs and gains in convenience and safety for the region's residents in the long run. p. 28.

FROM CONCEPT TO IMPLEMENTATION

LOWER MAINLAND DEVELOPMENT CONCEPT	PART III SECTIONS	IMPLEMENTATION MEASURES	
		LAND-AREA POLICIES AND DESIGNATIONS	REGIONAL FEATURES POLICIES
"A metropolitan area and five valley towns and other urban areas	Cities and Towns	° urban area policies ° urban-2 developing urban and suburban area policies ° urban reserve area policies ° industrial area policies	° centres policies ° residential settlements guidelines
surrounded by productive farmland, stable rural areas	Countryside and Farms	° agricultural area policies ° rural area policies ° canyon hamlet area policies ° resource area policies	
and protected environmentally sensitive and recreational areas	Environment	° park area policies ° limited use area policies ° resort area policies	° floodplain policies ° natural assets policies
linked by efficient transportation facilities."	Transportation and Utilities	° port/terminal area policies	° transportation network policies ° regional utility policies

Summary:

The plan used zoning for minimum parcel sizes, servicing requirements, and designated land use areas to achieve objectives.

Extract: Official Plan for the Lower Mainland of B.C.

URBAN-2 DEVELOPING URBAN AND SUBURBAN AREAS

GENERAL POLICIES

ENSURE
- an orderly supply of land for urban development.
- staged development of new urban areas.
- urban areas are developed with full services.
- suburban areas are developed with public services appropriate to the intended pattern and intensity of development.
- uses and development patterns in future urban areas are compatible with eventual development.

ENCOURAGE
- a diversity of densities appropriate to the needs and lifestyle preferences of the population.
- residential development patterns which respect unique landscape features and offer a suitable transition between cities and towns and countryside and farm areas.

RESERVE
- land best suited to urban development.
- sufficient urban land to satisfy future development requirements.

LIMIT
- further subdivision on the floodplain.
- further urban development on agricultural lands.

DESIGNATION POLICY

1. The plan map designates as URBAN-2 those areas:
- partially subdivided into small acreage holdings;
- clearly intended for future urban or suburban development;
- located adjacent to existing or future urban areas; and
- with assured freedom from flooding and unsuitability for productive agriculture.

2. URBAN-2 areas shall not be created and shall only be extended through plan amendment to include an area which has been shown in detailed studies to be inapproriately designated, is free from flooding and unsuitable for productive agriculture and is considered suitable for future urban or suburban development.

USE POLICY

1. URBAN-2 areas may be used only for country residential, farming, resource extraction, recreation, conservation, utilities and local commercial, local transportation, local public and local semi-public uses. Where a parcel of land is greater than 4 hectares (10 acres) in size and is in farm use, two dwelling units may be permitted on the parcel.

2. URBAN-2 areas may be also used for commercial outdoor recreation, institutional, industrial and regional transportation-oriented commercial uses provided that the area has been the subject of a plan amendment supported by an Official Community Plan or Official Settlement Plan which demonstrates that:
- such uses will not adversely affect surrounding lands;
- such uses are in keeping with the development objectives, development strategy and general policies of this plan; and
- the area in which this provision is applied does not exceed 5 per cent of that portion of the Official Community Plan or Official Settlement Plan area that is designated URBAN-2 in the Official Regional Plan.

SUBDIVISION POLICY

1. Land in URBAN-2 areas where a community water supply system and a community sanitary sewer system are provided upon subdivision, shall only be subdivided in accordance with the standards of the responsible authority.

2. Land in URBAN-2 areas, where a community water supply system and a community sanitary sewer system are not provided upon subdivision, shall only be subdivided in accordance with the standards of the responsible authority except that the parcel size shall not be less than 2 hectares (5 acres).

3. Notwithstanding the above, land in URBAN-2 areas, where a community water supply system is provided upon subdivision, shall only be subdivided in accordance with the standards of the responsible authority provided that the area has been the subject of a plan amendment supported by an Official Community Plan or Official Settlement Plan accompanied by an advance street plan, building siting regulations and/or such other local by-laws as are appropriate to the intended ultimate development pattern and density.

4. Notwithstanding the above, land in URBAN-2 areas may be subdivided in accordance with the standards of the responsible authority where such subdivision is permitted under development by-laws enacted prior to the effective date of this plan.

URBAN AREA POLICIES

GENERAL POLICIES

ENSURE
- the development of vacant or redevelopment of low density uses in existing urban areas before opening up new areas.
- an orderly supply of land for urban development.
- staged development of new urban areas.
- urban areas are developed with full services.
- uses and development patterns in future urban areas are compatible with eventual urban development.

ENCOURAGE
- development of well organized urban areas.
- development of compact urban communities at higher residential densities.
- control of storm water discharge from developed urban areas onto farmland.

RESERVE
- land best suited to urban development.
- sufficient urban land to satisfy future development requirements.

LIMIT
- further urban development on agricultural land.
- further urban development on the floodplain.

DESIGNATION POLICY

1. The plan map designates as URBAN:
- existing urban development; and/or
- areas of assured freedom from flooding and unsuitability for productive agriculture that will be required for urban development in the next ten years.

2. URBAN areas may be extended through plan amendment provided:
- additional lands that meet the designation policy criteria above are identified;
- urban development trends warrant such an extension;
- priority is given to extensions into URBAN RESERVE areas;
- both a community water supply system and a community sanitary sewer system capable of fully servicing the area are extended to the boundary of the area;
- the area to be redesignated is not a PORT/TERMINAL area; and
- regional transportation facilities that can adequately service the proposed URBAN area have been agreed to by the responsible authorities.

3. URBAN areas shall not be extended into a floodplain except where an existing URBAN area surrounded on all sides by a floodplain is committed to further urban development through early settlement and requires additional land for development. In that case such extension shall be contingent upon floodproofing.

4. URBAN areas may be created through plan amendment provided:
- all the criteria for extension of an URBAN area are met;
- the area is designated as an URBAN RESERVE area;
- an Official Community or Official Settlement Plan or Plans establishes the intended staging of urban development in all URBAN RESERVE areas within the jurisdiction of the responsible authority;
- a program for providing community water supply and sanitary sewer systems has been prepared; and
- the area to be created is not less than 40 hectares (100 acres).

USE POLICY

URBAN areas may be used for all uses.

SUBDIVISION POLICY

1. Land in URBAN areas, where a community water supply system and a community sanitary sewer system are provided upon subdivision, shall only be subdivided in accordance with the standards of the responsible authority.

2. Land in URBAN areas, where a community water supply system and a community sanitary sewer system are not provided upon subdivision, shall only be subdivided in accordance with the standards of the responsible authority except that the parcel size shall not be less than 2 hectares (5 acres).

3. Notwithstanding the above, land in URBAN areas, where a community water supply system is provided upon subdivision, shall only be subdivided in accordance with the standards of the responsible authority provided that:

- the area has been the subject of a plan amendment supported by an Official Community Plan or Official Settlement Plan accompanied by an advance street plan, building siting regulations and/or other local by-laws which demonstrate that subdivision would not preclude the eventual full urban development and servicing of the area;
- the area in which this provision is applied does not exceed 5 per cent or 40 hectares (100 acres) whichever is the lesser of that portion of a municipality or electoral area that is designated URBAN in the Official Regional Plan; and
- the approval of the Medical Health Officer has been obtained with respect to on-site sewage disposal.

Mary Rawson. Ill Fares the Land. Land-Use Management at the Urban/Rural/Resource Edges: The British Columbia Land Commission. 1976.

° Problems of Urban Encroachment

  ° Bill 42 - provision that there would be no compensation for agricultural zoning. p. 22

City of Calgary. City and Community Planning Division. Planning and Building Department. **Long-Term Growth Management Strategy.** **April, 1986.**

VOLUME 1

Long-term land supply policy directions

- To ensure that at least a 30 year land supply, for all uses, exists within the City's jurisdiction.

- To acknowledge the role of the Urban Fringe in protecting growth options (and acting as a buffer) for at least the 30-60 year period. p. viii.

Annexation Scenarios

- Re: possible annexation to the west

  - Because of fragmented ownership and country-residential development, the amount of reasonably developable residential acreage (available within 30 years) is difficult to estimate. p. x.

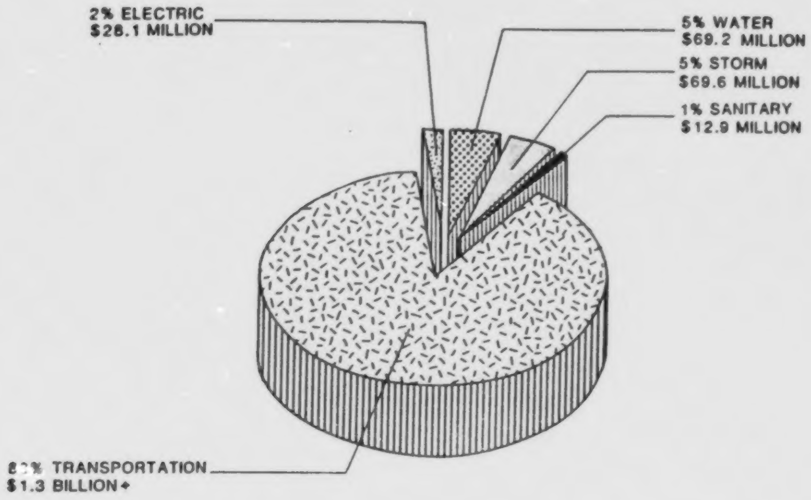
  - It is anticipated that development in the West and Northwest would likely occur on a piece-meal, small scale basis, requiring flexibility in financing municipal service extensions. Many existing parcels and houses may remain for the foreseeable future, despite surrounding urban development. p. x.

  - ...the persistent **subdivision and development of country-residential uses** along the West and Northwest edges of the city may, in a very short time, eliminate these areas as potential growth corridors for the city. The option to expand in these directions needs to be considered in the very near future; p. 1.

Servicing Analysis - as the City builds out (undeveloped residential areas)

- "...the **total cost** (shared among taxpayers, rate payers, developers and senior levels of government) of servicing suburban residential lands already within the city is likely to be well in excess of $1.5 Billion. Of this, transportation system improvements will represent in excess of 90% of the total cost. p. 24.

See Table Below:



ESTIMATED CAPITAL EXPENDITURES
TO SERVICE RESIDENTIAL GROWTH OVER 20-30 YEARS
EXCLUDING TREATMENT PLANT EXPANSIONS

NOTE: COST ESTIMATES ARE NOT INCLUDED FOR THE FOLLOWING IMPROVEMENTS:

1 Reconstruction of 68 St. East between Memorial Drive and 17 Avenue (City's share - cost shared with developer).
2 Extension of N.E. LRT into Saddleridge.
3 Construction of a river crossing over the Bow River.
4 S.E. LRT (or spur line from S. LRT into the Homesteads along 22X).
5 Interchanges at Sarcee/Glenmore and Sarcee/Richmond.
6 17 th Avenue S.W. up-grading from Sarcee to downtown.
7 Crowchild up-grading West of City limits.
8 Interchange at Deerfoot/32 Avenue.

P. 24

- While the City normally front-ends the capital cost of most engineering services, their cost is usually recovered through acreage assessments and utility rates in the long-run. If development occurs at a slower rate than expected, or on a piece-meal basis, it is possible that the City may be unable to recover the unreasonably high acreage assessment charges that could result. Even where most of the expense is likely to be recovered, the City will need to closely monitor the impact which front-end requirements could have on the total municipal debt load, and may need to adjust its servicing policies accordingly. p. 24.

  - it is intended that future suburban areas develop in an efficient and logical manner.

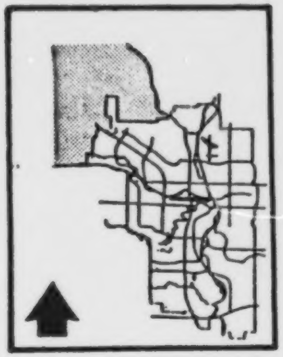
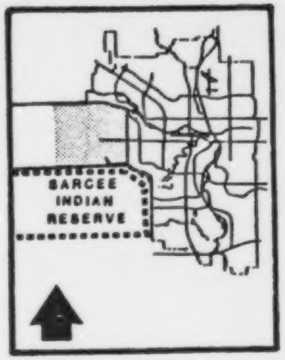
  6.2.2. Policy Directions. p. 28.

Long-Term Land Supply

6.6.2. Policy Directions

17. The City will endeavour to have within its jurisdiction at least a 30 year supply of developable lands, for all uses, to allow for the comprehensive planning of new areas, and to encourage choice and competition in the marketplace.

18. The City recognizes that the purpose of the Urban Fringe is to provide land for future urban expansion and to act as a buffer between rural uses which may not be compatible with urban development. The Urban Fringe will serve to protect a land supply to meet the needs of at least the 30-60 year planning horizon. Because of the uncertainty in identifying growth corridor preferences for such an extended period, the Urban Fringe is to provide for a choice of possible growth alternatives. p. 32.

SECTOR	SHOULD ANNEX BECAUSE...	SHOULD NOT ANNEX BECAUSE ....
NORTHWEST 	1. The industry has expressed an interest in major development to the Northwest. 2. Views and physical features of the area are very scenic. 3. Not prime agriculural land. 4. If the Northwest is not identified as a major growth corridor it is likely that there will be continued pressure for subdivision and country-residential development. The City may lose the option of expanding to the West (in the Northwest Sector) if it does not declare and protect that interest now.	1. Existance of fragmented subdivision pattern and substantial country-residential homes will likely stall the complete or contiguous development of land for urban uses. Urban development would likely occur in a more piece-meal fashion over an extended period of time. 2. Likely to be a relatively high cost growth corridor as major transportation improvements are required and would affect downstream communities in the Northwest Sector.
WEST 	1. The industry has expressed an interest in development to the West. 2. Views and physical features of the area are very scenic. 3. A limited amount of urban development immediately West could likely be serviced relatively inexpensively. 4. Not prime agricultural land. 5. If the West is not identified as a major growth corridor it is likely that there will be continued pressure for subdivision and country-residential development. The City may lose the option of expanding to the West if it does not declare and protect that interest now.	1. Existance of fragmented subdivision pattern and substantial country-residential homes will likely stall the complete or contiguous development of land for urban uses. Urban development would likely occur in a more piece-meal fashion over an extended period of time. 2. Likely to be a relatively high cost growth corridor in terms of accommodating a substantial urban population. Transportation improvements would affect downstream communities.

p. 10 and 11

VOLUME 4 Long-Term Growth Corridors - Constraints and Opportunities

° Comments in the following tables indicate how fragmentation affects annexation.

SUMMARY OF FACTORS INFLUENCING FUTURE GROWTH (ANNEXATION) DIRECTIONS (BY SECTOR)

SECTOR	FACTOR	DESCRIPTION	CONSEQUENCES
NORTHWEST	EXISTING LAND USE	- Substantial country-residential subdivision and development immediately West of City limits (Map NW.1). - Provincial jail and City landfill site immediately North of City limits. - Mainly agricultural uses North of city limits and beyond 4-5 miles West of City limits.	- Country-residences and fragmented subdivisions would likely result in a slower rate of urban development (if the area is annexed). Land assembly may be more difficult and servicing made more complex and perhaps more costly. There would likely be a need to annex more extensively to ensure a sufficient supply of easily developable residential lands, interspersed among the country-residential subdivisions. - Conversion to urban suburbs would likely be on a piece-meal, small scale basis, requiring flexibility in financing municipal service extensions. Many existing parcels and houses may remain for many years, despite surrounding urban development. - Provincial jail likely to be a very long-term use. - Landfill site to be filled-in in 15-20 years; future use likely limited to major open space or other non-intensive activity.

SUMMARY OF FACTORS INFLUENCING FUTURE GROWTH (ANNEXATION) DIRECTIONS (BY SECTOR)

SECTOR	FACTOR	DESCRIPTION	CONSEQUENCES
NORTHWEST	FUTURE USE IF NOT ANNEXED	Areas immediately West of the city are likely to see continued pressure for extensive fragmentation and country-residential development.	- If not annexed soon, or satisfactorily restrained through Urban Fringe provisions (to be negotiated), continued country-residential development could effectively eliminate areas to the Northwest of the city limits from the long-term urban land supply. - Continued country-residential development is likely to generate increasing demands for City water (and perhaps sewer) services. - Rural population will continue to contribute to traffic volumes along major traffic arteries into downtown.

SUMMARY OF FACTORS INFLUENCING FUTURE GROWTH (ANNEXATION) DIRECTIONS (BY SECTOR)

SECTOR	FACTOR	DESCRIPTION	CONSEQUENCES
WEST	EXISTING LAND USE	Substantial country-residential subdivision and development immediately West of the city limits (Map W.1). Acreages interspersed with some agricultural lands.	- Country-residences and fragmented subdivision would likely result in a slower rate of urban development (if the area is annexed). Land assembly may be more difficult and servicing made more complex and perhaps more costly. There would likely be a need to annex more extensively to ensure a sufficient supply of easily developable residential lands, interspersed among the country-residential subdivisions. - Conversion to urban suburbs would likely be on a piece-meal, small scale basis, requiring flexibility in financing municipal service extensions. Many existing parcels and houses may remain for many years, despite surrounding urban development.

SUMMARY OF FACTORS INFLUENCING FUTURE GROWTH (ANNEXATION) DIRECTIONS (BY SECTOR)

SECTOR	FACTOR	DESCRIPTION	CONSEQUENCES
WEST	RURAL ASSESSMENT GENERATORS	Country-residential acreages and Canada Olympic Park (Map W.1) may be perceived by the M.D. of Rocky View to be major assessment generators.	
	RURAL INVESTMENTS	The M.D. of Rocky View has been involved in purchasing private water systems (e.g. Artists' View Park) and is investigating the possibility of developing other major water systems along the West side.	
	FUTURE USE IF NOT ANNEXED	- Areas immediately West of the city are likely to see continued pressure for extensive fragmentation and country-residential development.	- If not annexed soon, or satisfactorily restrained through Urban Fringe provisions (to be negotiated), continued country-residential development could effectively eliminate areas West of the city limits from the long-term urban land supply. - Continued country-residential development is likely to generate increasing demands for City water (and perhaps sewer) services. - Rural population will continue to contribute to traffic volumes along major traffic arteries into downtown.

SUMMARY OF FACTORS INFLUENCING FUTURE GROWTH (ANNEXATION) DIRECTIONS (BY SECTOR)

SECTOR	FACTOR	DESCRIPTION	CONSEQUENCES
SOUTHWEST	SARCEE INDIAN RESERVE	Reserve directly abuts the city limits for several miles along the West side. (Map SW.1). These lands have traditionally been considered unavailable for urban expansion. Recent negotiations to secure a right-of-way for the Sarcee Trail may result in the possibility of a limited amount of urban-type development on reserve land, between the proposed alignment and the existing city limits. Otherwise, the reserve will likely remain unavailable for urban expansion.	Limited amount of development may occur on the reserve adjacent to the city, but reserve lands do not presently provide a viable option for annexation.
	RURAL ASSESSMENT GENERATORS	In the 1982 Annexation Study, the M.D. of Foothills had identified the Spruce Meadows Equestrian Centre as a significant assessment generator for the district. (Map SW.1)	If Spruce Meadows were to be avoided in terms of annexation, this may limit the City's ability to annex immediately South and either to the East or West of the Spruce Meadows site.
	FUTURE USE IF NOT ANNEXED	Likely to continue as agricultural uses, although there is expected to be increasing pressure for subdivision and country-residential development.	The Southwest could remain as a very long-term growth corridor, provided that adequate protection against fragmentation and incompatible uses could be negotiated through Urban Fringe provisions of the Regional Plan.

SUMMARY OF FACTORS INFLUENCING FUTURE GROWTH (ANNEXATION) DIRECTIONS (BY SECTOR)

SECTOR	FACTOR	DESCRIPTION	CONSEQUENCES
EAST	SOUR GAS FACILITIES	Presence of a Level 2 pipeline and well. (Map E.5).	Annexation of lands with Level 2 facilities should be considered with regard to the implications noted for the Northeast and Southeast Sectors.
	FUTURE USE IF NOT ANNEXED	Likely to continue as primarily agricultural land use, but there has been some demand for growth in the Summer Village of Chestermere Lake and for small holdings and country-residential subdivision.	This sector could likely continue to provide a very long-term growth corridor, particularly for industrial uses, but its protection should be ensured in Urban Fringe provisions i.e. limiting growth at Chestermere Lake and limiting future country-residential uses.

BM/jc
IP-220(B)(4.5)
86/02/04

- End of Extract: City of Calgary

Environmental Council of Alberta Hearings Regarding the Agricultural Land Base. A submission by the City of Calgary. October 13, 1983.

- Addressed issues related to urbanization and the agricultural land base.

  ° As one means of conserving agricultural land, the growth of urban-related activities should be accommodated in existing urban areas and not through the creation of new urban areas or by the introduction of non-agricultural activities into rural areas. As urban centres can be more efficient in accommodating urban activities than rural areas, such growth should be directed to urban areas.

  ° The subdivision of land for non-agricultural uses in the Calgary region has taken more prime (CLI 1-3) agricultural land out of production than all of the urban centres combined in the Calgary region from 1971 to 1982. Further, small lot subdivisions in the rural municipalities have accommodated far fewer people, at lower densities, in comparison to the number of people accommodated through urban expansion.

  ° The Panel should recognize that urban centres cannot expand with equal ease in all directions. Calgary's growth options, for example, may be seriously constrained by the presence of sour gas fields, Indian Reserves, airports and extensive land fragmentation along its edges. Faced with such constraints, the urban area may have few choices but to expand onto good agricultural lands. Efforts to avoid lands having a high capability, where that is possible, may result in significant additional costs to urban residents. p. 1.

Recommendations:

° The conservation of good agricultural lands must be dealt with within the realities of a growing and diversifying economy and with an aim to foster an efficient settlement pattern at the same time. Provincial and regional settlement policies should encourage the growth of existing urban centres as opposed to the creation of new centres and should ensure that development of an urban nature is contained within urban municipalities. The unnecessary subdivision of prime agricultural land for country residential uses should be discouraged.

- Policies are needed to lessen the subdivision and development of lands within close proximity to urban areas, whether on prime or marginal agricultural land, in an effort to minimize the unnecessary constraints which they impose on the urban area's choice of growth corridors. Only then will urban areas have the ability and opportunity to avoid the development of productive lands where that is possible.

  Urbanized areas should be encouraged to identify long term growth corridors. Within such corridors, the further development and subdivision of land should be carefully regulated to ensure that the long term function of the corridors is not jeopardized.

- That in developing policy at the provincial level, the province recognize that policies aimed at conserving agricultural land around urban areas may result in substantial costs to urban reisdents. In such instances, the province should examine ways of reducing the full impact of that burden on the urban municipality.

County of Strathcona No. 20. General Municipal Plan. Adopted by Council, September 16, 1986.

Following are selected extracts from the plan pertaining to the fragmentation issue.

° Part Two:

Planning Goals - Form of Human Settlement.

"4. Preservation of future urban expansion areas, natural conservation areas, resources, and significant lake shorelands in accordance with their existing use and long term potential." p. 12.

° Part Four:

Specific Area Policies

A. Sherwood Park Urban Service Area (Sherwood Park)

"Contiguous Residential Expansion

(d) Future residential development in Sherwood Park expansion areas shall be encouraged to be contiguous extensions of existing development nodes consistent with economical and efficient provision of municipal services [Subdivision Approval, Area Structure Plan]." p. 19.

"Interim Uses

(e) Appropriate interim agricultural and non-permanent open space uses, which do not prejudice future urban development shall be encouraged in the areas designated for future residential and residential expansion. [Land Use Bylaw]." p. 20.

"Interim Uses

(h) Appropriate interim agricultural uses and limited outdoor storage uses which shall not prejudice the long term development of industrial lands may be permitted on vacant lands designated for future industrial uses. [Land Use Bylaw]" p. 22.

D. Country Residential Infill Area

Resubdivision of Small Holdings Parcels

(c) Resubdivision of small holding subdivisions of 4.0 hectares (10 acres) to 8.0 hectares (20 acres) into country residential uses may be permitted based upon an acceptable Area Structure Plan for the entire quarter section or such area as determined by the County. p. 30.

Suburban Estates Within 1.6 km of Sherwood Park

(e) Suburban estate uses, with parcel sizes not less than 1350 square metres (14,500 square feet) may be permitted, based upon provision of municipal water and sewer systems and paved roads, within approximately 1.6 kilometres (1.0 mile) of Sherwood Park. [Subdivision Review, Land Use Bylaw] p. 30.

Resubdivision of Country Residential/Small Holdings Within 1.6 km of Sherwood Park to Suburban Estates

(f) Provided municipal water and sewer services are in place and an overall replotting scheme for the entire subdivision has been agreed upon by affected landowners and approved by the County in accordance with the Planning Act, resubdivision of existing country residential and small holding parcels into suburban estate uses may be permitted within approximately 1.6 kilometres (1.0 mile) of Sherwood Park. [Replotting Scheme, Land Use Bylaw] p. 31.

E. Agricultural Area

No Future Country Residential & Small Holdings Subdivisions

(g) Multiple parcel country residential, small holding subdivisions shall not be permitted, except to allow minor infilling within existing country residential or small holdings subdivisions. [Land Use Bylaw] p. 33.

F. Agricultural/Rural Residential Area

No Future Country Residential or Small Holdings Subdivisions

(f) Multiple parcel country residential, small holdings subdivisions shall not be permitted, except to allow minor infilling within existing country residential or small holdings subdivisions. [Land Use Bylaw]

Jackson, J.N. "The Niagara Region: A Dearth of Regional Policy Commitment", in The Rural-Urban Fringe: Canadian Perspectives. Beesley and Russwurm, ed. Downsview, Ontario: Department of Geography, Atkinson College, York University, 1981. pp. 419-431.

This paper deals primarily with the history of the plan process for the Niagara Region, however, a number of his observations are noteworthy.

> "The Canadian rural-urban fringe is a complex phenomena. It involves rings of loose growth around expanding towns, linear outward extensions along major lines of communication, an overspill of people and activities to nearby centres, and a scattering of these components over the intervening rural localities. The situation is compounded as new major four-lane highways and improved roads interlink adjacent urban centres, and as new modes of employment activity are located externally in the expanding urban matrix."

> "Its own basic resources, whether of agricultural or scenic value, are continually in jeopardy, because the land is owned privately; when a farmer sells land he makes a profit, and the right to sell land to the highest bidder is deemed to be an inalienable right. This complexity of different and competing demands for the same terrain **demands** the most effective form of **regional** planning that man can devise, if the issues and uncertainties that now arise are to be resolved with any degree of rational certainty. The fringe is the problem area **par excellence** of our present affluent, urbanizing, modern society."

> "In Britain and across Continental Europe there are policies that can be identified, including new towns, green belts and schemes of linear urban expansion. In most countries there are avowed attempts by central government agencies to place spatial limits on urban expansion, and to safeguard specific types of environment under agricultural or recreational opportunities. Industrial location is subject to curbs to influence announced policies of population distribution."

> "Certainly such policies exist to some extent in Southern Ontario, but the prime policy is that of either no regional policy, or of ineffectual reg-

ional policies in the critical area of the complex, widely dispersed and extensive rural-urban fringe localities."

"For Niagara, a report analyzing its fundamental problems of land use and development was published in 1970. The pressures on agricultural land and the intensification of farming practice were both recognized, together with the urban shadow around cities and the increase in the market value of land and buildings. Public concern about urban encroachment into the fruit lands of the Peninsula was noted, and the quality of this land was identified. The statement was made that, "while it is already too late to preserve many areas of farmland, **drastic action** should be taken to ensure the survival of those areas which are still economically viable. For recreation, a "very heavy pressure" is identified on the Region's resources."

"In the meantime, the Province, through the various agencies, has continued to promote development, often through improving standards for the existing services. New water and sewer lines, extended water works and sewage disposal plants, and an improved service infrastructure, have each been provided. They traverse the rural environment, and are often over-sized in order to encourage growth. In terms of new highways, the Queen Elizabeth Way has been provided with two service roads and new points of access, a new four-lane route is being built west of St. Catharines, and other main roads have been improved, again to promote and further scatter the development opportunity. The Municipal units of government have been enlarged, and provided with overbounded political boundaries, which encourages expansion within the administrative limits, rather than the pursuit of regional policies. There is a creeping urban problem through the severance mechanism. The Province, having espoused the option of no regional policy, has encouraged spacious development on the urban fringe through its various administrative mechanisms."

DPA Consulting Limited. New Brunswick Settlement Patterns. 1978.

- Instead of policy, which directs population settlement, New Brunswick has experienced a "reactive" type of policy that has tended to provide services to people where they are. The Province's transportation system, road maintenance and snow plowing services, and school busing program all support scattered development and provide no incentive for concentrated settlement. p. 2.

- Trend of 1/3 of population resides outside municipal boundaries of cities or towns results in major problems concerning urban sprawl, the provision of government services and lack of land use planning in the rural areas.

  Problems Arising from Population Trends

  - urban sprawl - high cost of providing services.

  - ribbon development - growth along major highway - creates traffic problems to construction of a costly by-pass.

  - loss of agricultural land - pressures on agricultural land in the market place result in inability to obtain land for farming purposes.

  - the existing structure for financing of local services - government subsidizes non-incorporated areas; - effects of non-residents using municipal planning for the non-incorporated areas.

D. Halpenny. Rural Land Value Study: A Summary. Selkirk and District Planning Area. 1977.

- To illustrate the effect of land fragmentation on land values...in the case study, the price of land in the original transaction was $80. per acre for 160 acres. This is in contrast to the most recent sale of a 10-acre fragment of the original parcel for $1,050 per acre. "Process of land price escalation through subdivision of property."

Conclusions

- The most significant trends of land value changes in this study are that the largest land value has been associated with the smallest acreage parcels. On the other hand, the land parcels 30 acres or larger in size are not only the lowest priced, but have increased at a lower rate than the other size categories. This suggests that the parcels with greater agricultural potential have tended to stabilize in value.

5.0 SURVEY AND INTERVIEWS

Fragmentation Study
Summary of Questionnaire Results
November 12, 1986

1.0 BACKGROUND

The first phase in examining the issue of fragmentation of future urban expansion lands was to undertake an extensive literature review. While there is much research on the topic, there is little information on current practices and experiences of Canadian municipalities. To rectify this, it was decided to undertake a survey of urban centres in Canada to determine, firstly, the extent of fragmentation, and secondly, how the issue is being addressed. We also hoped to uncover municipal reports or studies on the topic which could not be found through conventional library searches.

2.0 METHODOLOGY

The target population of the survey was urban municipalities in Canada. As the information we wanted to obtain was very specific and required specific expertise and professional judgement, we felt the survey questionnaire should be answered by a senior planner in the municipality. Fortunately, an excellent list frame of the population was found in a publication produced by ICURR, entitled Municipal Planning Directors in Canada, 1985. To select our sample we stratified the list as to province and population size of the municipality. This ensured that each province was represented as well as cities of varied population sizes. We then selected a sample of 39 municipalities, to which we mailed the questionnaire. A copy of the questionnaire is attached.

We received 24 responses which represented a 64% return on our mail survey. This is an excellent response rate for a mail questionnaire, and can largely be attributed to the respondents' professional interest in the topic. We were pleased to note the considerable number (70%) of respondents who attached personal comments, letters and reports to the returned questionnaire. Copies of the correspondence received are attached to this report.

3.0 SUMMARY AND INTERPRETATION OF RESULTS

3.1 LAND SUPPLY

Respondents were asked to estimate, in years, their land supply, both within and outside, their corporate boundary. All respondents indicated their municipalities contain more than ten years supply of land for future development within their corporate boundary. The majority of the respondents (65%) stated they have more than 21 years supply. Only two municipalities (Winnipeg and Saanich) indicated they had a land supply within their boundary that exceeded 50 years.

Two-thirds of the respondents indicated that they did not have any lands outside of their corporate boundary which were protected for future expansion. Of the one-third who did have lands protected for future growth outside their boundary, the planning approach most often cited was inter-municipal planning. This included such things as zoning of the lands by the adjacent municipality, area development plans, annexation agreements and land assembly. In two instances, municipalities cited that regional policy documents provided protection.

3.2 CHARACTERISTICS OF FUTURE DEVELOPMENT LANDS

In order to obtain a picture of the characteristics of future development lands, we examined three variables which could be used to describe land fragmentation. These variables were: the extent of small acre subdivisions, availability of public sewer and water services and the amount of active farming. A substantial majority of respondents (70 %) indicated that future expansion lands within the municipality were characterized by:

- one-quarter of the lands being presently subdivided into parcels 20 acres or less in size; and

- limited or no access to public water or sewer services.

No pattern emerged with respect to the extent of active farming occurring on future expansion lands. For example, respondents from Saskatchewan indicated that an overwhelming majority of the lands were farmed, while metropolitan centres such as Toronto or Montreal, indicated little or no active farming.

3.3 PHASING OF LANDS

The majority (59%) of respondents indicated they had a phasing sequence for development of future expansion lands within their boundary. Further examination of the data suggests that those respondents with larger inventories of land supply (i.e. > 21 years) tended to have phasing while those with a land supply between 11 to 20 years did not. This could indicate that low land supply figures represent a land supply ready for immediate development. Toronto and Montreal, for example, indicated their land reserves were being held for industrial purposes.

3.4 SERVICING CONSTRAINTS

Just over half the respondents do not allow new development to occur within their boundary that is not serviced with public water and sewer systems. Of the 40% who do, it is generally only allowed in specific circumstances such as: subject to environmental and health authority approvals, for limited uses such as storage industries or in designated areas on a small scale.

3.5 LAND USES PERMITTED ON URBAN EXPANSION LANDS (WITHIN A MUNICIPAL BOUNDARY)

The last section of the questionnaire asked respondents to identify those land uses presently permitted to occur on future expansion lands. A large majority of respondents (68%) indicated that country residential development was allowed as a land use within their municipality. Minimum permitted parcel sizes varied from .5 acres to 25 acres, with the majority of respondents (53%) restricting such development to no less than 5 acres in size.

The majority (52%) of respondents do not allow industrial uses on future expansion lands and a larger majority (57%) do not allow commercial development to occur on expansion lands. For those municipalities that allow such uses, parcel sizes are unique to each municipality.

As previously stated, the majority of respondents did not have land reserved for growth outside their corporate boundary. Only 1/4 of the respondents (5) provided land use information for lands outside their corporate boundary. With such a low response to this question, it is considered inappropriate to make inferences with respect to this data.

4.0 CONCLUSIONS

1. There is a high interest in the subject matter.

2. It is difficult to determine "land supply" as many respondents equate "supply" with degree of protection. If it is not protected then it is not considered "supply".

3. Most municipalities in Canada have future expansion lands within their own jurisdiction and control. Where expansion lands are available outside of their jurisdiction, intermunicipal planning arrangements are the chief means used of assuring this supply is protected.

4. Most expansion lands are minimally subdivided and remain unserviced.

5. The municipalities do allow country residential development but those which allow it within the municipality either require public water and sewer or limit the scale of such development to designated areas only. Similarily, industrial and commercial activities, if allowed, must either be serviced or is limited in location to designated areas.

6. The range of municipalities surveyed in terms of size, provincial jurisdiction, growth rates and the like, makes comparisions difficult but does provide a picture of the wide variety of approaches to preserving land for future urban expansion. These survey results should be considered in this light and in recognition that the survey results are the product of a non-probability sample and therefore should not be extrapolated to the general population (the majority of Canadian cities).

BEGINNING OF SURVEY CORRESPONDENCE

20-01-05-09-(1)

August 25, 1986

[redacted]
Director, Planning Department
[redacted]

Dear [redacted]:

Re: Calgary Region - Fragmentation Study

We are writing you for some brief information on a planning issue at the forefront in the Calgary Region. The Commission has recently undertaken a study on the implications of continued subdivision and development of rural lands, adjacent to towns and cities. In particular, we are interested in the impact of development occurring on lands identified as urban growth corridors. The issue we are addressing is whether regional land use controls should be implemented to control or prevent further fragmentation of land in these growth corridors or if rural development can be allowed and to what extent as a transitional use to urban development.

We are conducting an extensive literature review of this issue. As part of this information survey, we are soliciting selected municipalities experience in this matter. We would greatly appreciate it if you would take the time to answer the few questions on the attached form and return it to our office. Also, if you have any additional comments or pertinent planning policies or documents, please forward them as well.

If you are interested in the results of our study, please let us know and we'd be pleased to send you a copy. We anticipate completion early in 1987.

Thank you for your assistance.

Yours truly,

Karl Nemeth, Manager
Urban Planning Division

SN/db
Attachment

PLEASE RETURN TO:

208(ii)

Calgary Regional Planning Commission
4303 - 11 Street S.E.
Calgary, Alberta T2G 4X2
Telephone: (403) 287-2472

Municipality: ____________________

____

____

Office Use Only

☐☐ 1 2

☐ 3

☐ 4

☐ 5

☐ 6

☐ 7

FRAGMENTATION STUDY SURVEY

Note: Throughout this questionnaire, the term "future expansion lands" is used. For purposes of the survey, this term refers to any lands not yet developed to "urban" density.

1. Approximately how many years land supply is available for future development within your corporate boundary? Please circle one of the following.

   None 1 to 10 11 to 20 21 to 30 31 to 40 41 to 50 51+ Unknown

2. Are any lands protected for your future expansion that are now located outside your corporate boundary? Please circle your choice. YES NO

3. If you answered yes to Question No. 2, please indicate by circling, approximately how many years supply is protected outside your corporate boundary.

   1 to 10 11 to 20 21 to 30 31 to 40 41 to 50 51+ Unknown

   By what means is this land protected? ____________________

4. Please respond to the following questions by circling the appropriate range for each of the two column headings.

	WITHIN YOUR CORPORATE BOUNDARY	OUTSIDE YOUR CORPORATE BOUNDARY	Office Use Only
(a) What percentage of future expansion lands are presently subdivided into parcels 20 acres or less in size?	0% 1 to 25% 26 to 50% 51 to 75% 76 to 100% Unknown	0% 1 to 25% 26 to 51% 51 to 75% 76 to 100% Unknown	☐ 8 ☐ 9
(b) What percentage of future expansion lands are serviced by public water?	0% 1 to 25% 26 to 50% 51 to 75% 76 to 100% Unknown	0% 1 to 25% 26 to 50% 51 to 75% 76 to 100% Unknown	☐ 10 ☐ 11
(c) What percentage of future expansion lands are serviced by public sewer?	0% 1 to 25% 26 to 50% 51 to 75% 76 to 100% Unknown	0% 1 to 25% 26 to 50% 51 to 75% 76 to 100% Unknown	☐ 12 ☐ 13
(d) What percentage of future expansion lands are actively farmed?	0% 1 to 25% 26 to 50% 51 to 75% 76 to 100% Unknown	0% 1 to 25% 26 to 50% 51 to 75% 76 to 100% Unknown	☐ 14 ☐ 15

5. Is there a phasing sequence for development of these future expansion lands: (Please Circle)

   (a) WITHIN your boundary? YES NO ☐ 16

   (b) OUTSIDE your boundary? YES NO ☐ 17

6. Do you presently allow new development to occur, within your corporate boundary, that is not serviced:

   (a) by public water YES NO ☐ 18
   (b) by public sewer YES NO ☐ 19

   If 'yes' for either of the above, please specify under what conditions, if any.

   ____________________ ☐☐ 20 21

7. Please indicate if any of the following general land uses listed are presently permitted to occur on future expansion lands. If you indicate a 'yes' to any of the uses, please state the minimum parcel area that is allowed, in the space provided.

	WITHIN YOUR CORPORATE BOUNDARY	OUTSIDE YOUR CORPORATE BOUNDARY	Office Use Only
			☐☐ 22 23
(a) Country Residential	YES - Min. Parcel Area _____ NO	YES - Min. Parcel Area _____ NO	☐☐ 24 25
(b) Industrial	YES - Min. Parcel Area _____ NO	YES - Min. Parcel Area _____ NO	☐☐ 26 27
(c) Commercial	YES - Min. Parcel Area _____ NO	YES - Min. Parcel Area _____ NO	☐☐ 28 29
(d) Other? __________	YES - Min. Parcel Area _____ NO	YES - Min. Parcel Area _____ NO	☐☐ 30 31

8. Any additional comments? ____________________ ☐☐ 32 33

____________________ ☐☐ 34 35

208(111)

City of Fredericton
Planning Department

OCT 7 1986

File ....

October 1, 1986

Karl Nemeth, Manager
Urban Planning Division
Calgary Regional
Planning Commission
4303 11th Street S.E.
Calgary, Alberta T2G 4X1

Dear Mr. Nemeth:

Re: Fragmentation Study Survey

Please note the attached questionnaire which has been completed as requested. I trust that the delay in replying has not inconvenienced you too much.

In addition to the survey I would like to make some additional comments concerning the general situation in Fredericton. Hopefully these will help to explain some of our responses.

(1) Fredericton is an "amalgamated" City. Amalgamation occurred in 1973 when the then City of Fredericton was expanded to include 8 other municipalities which had been permitted to grow on the outskirts. Consequently the City is very spread out and covers an area of approximately 51 sq. miles - with a population of 46,000 (1986 estimate). Approximately 25% of the total area could be classified as developed for urban purposes.

(2) Many of the servicing systems inherited at amalgamation were substandard. The work involved in bringing these systems up to standard is still on-going. So, although between 1-25% of our future expansion lands are serviced they may not be serviced at the appropriate standard, and immediate development in some cases could require considerable municipal investment to overcome constraints.

. . . . . . 2/

City Hall, P.O. Box 130, Fredericton, N.B. E3B 4Y7 Telephone (506) 452-9500

(3) The area surrounding the City of Fredericton is basically unincorporated. Development in this area is controlled by the Province of New Brunswick and is permitted to occur on an ad hoc basis. There is no plan for this area and landowners can virtually develop their lands as they see fit - provided they can obtain approvals for wells and septic tanks from the Department of Health. The phrase "outside your corporate boundary" which is used on the questionnaire is very difficult for me to deal with as it consists of most of the rest of the Province apart from the Cities, towns and villages. We do not have a system of counties, and only the northern part of the Province has any planning "regions".

(4) The City's Municipal Plan and Zoning Bylaw take a reasonably firm stand against unserviced subdivisions. The Municipal Plan states that these will only be permitted along existing roads under certain conditions. However, much of the undeveloped area is zoned for "Future Development" in the Zoning Bylaw and although this zone permits residential development, it requires a minimum lot size of 4 hectares. Needless to say, we have not exactly been swamped with subdivision applications. At the time of writing the current policy is undergoing a review by City Council. This may result in a loosening of controls over unserviced subdivisions, but it should be noted that this has come about as a result of the lack of controls outside City limits. Over the past 10 years we have experienced an interesting population movement between the City and the outside area. This movement has consisted of a net exodous of families with young children away from the City and towards the unincorporated area. These people have been drawn by the larger lots, lower taxes and lower development costs experienced in the unincorporated area. There has also been a counter flow of young singles and people with older families from the outside area towards the City. These people seem to be attracted by the general convenience of the urban are. The results of these movements include: -

. . . . . 3/

a) a lowering of average household size in the City;

b) an ageing of the City's population;

c) a strain on the City's recreational infrastructure as it becomes more heavily used by outsiders who do not contribute taxes to the City;

d) pressure on City Council to permit more unserviced subdivisions within City limits in order to stem the outward flow of young families.

(5) In response to Question 7, we do permit various commercial and "other" uses in our future development zone. These include commercial greenhouses, kennels, riding stables, recreational ski facilities and other commercial athletic facilities such as golf courses. For non-agricultural uses the minimum lot size is 4 hectares. It should also be noted that several commercial zones have been created in our future expansion area to permit uses such as camp grounds, trailer parks, golf driving ranges and drive-in theatres.

I hope that this information is sufficient for your needs and that you will contact me if you require any clarification.

Yours sincerely,

PDickson

Peter Dickson, MCIP
Deputy Planning Director

PD/em

enclosure

CITY OF REGINA P.O. BOX 1790 • REGINA, SASK. • S4P 3C8

September 4, 1986.

Calgary Regional Planning Commission
4303 - 11 Street S.E.
Calgary, Alta.
T2G 4X1

86 COMMISSION

Attention: Karl Nemeth.

Dear Karl:

Good to know you are still studying the old question on the urban fringe. The more things change, the more they stay the same.

I should try to clarify our situation for you. First, under Saskatchewan legislation, there appears to be no problem extending our sector plans (i.e. ASP's) into the rural municipality. That's good, because we don't keep very many years' land supply within our boundaries, partly because of assessment legislation.

Second, one of our two suburban growth sectors straddles the Trans Canada Highway east out of the City. We have had the usual commercial strip development along the highway there, both inside and outside the city. In our sector plan we have had to recognize that and in fact make provision for more but in a more organized fashion.

Otherwise, there is little "fragmentation" in our growth sectors. The surrounding rural municipality does not allow country residential subdivision (minimum parcel size 160 acres) although there are a few cracks in the system: small agricultural holdings, some commercial developments, churches, etc. But our slow, steady rate of growth has not resulted in the enormous pressures that you faced around Calgary in the past.

Say hi to John, Ivan, Fred, Diane and the rest of the gang for me.

Yours truly,

Ian Bender

IB/vf

Ian Bender, Manager
Policy Section

208(vii)

TELEX 019-22641
TELEPHONE
902-421 -6506

CITY OF HALIFAX

HALIFAX, NOVA SCOTIA
B3J 3A5

DEVELOPMENT AND PLANNING DEPARTMENT

September 15, 1986

CALGARY REGIONAL PLANNIN
SEP 18
RECEIVED

Mr. Karl Nemeth
Manager
Urban Planning Division
Calgary Regional Planning Commission
4303 11th Street S.E.
Calgary, Alberta
T2G 4X1

Dear Mr. Nemeth:

Please find enclosed your "Fragmentation Study" questionnaire. The issue you are addressing has been a concern of ours for a number of years, although from the perspective of a municipality dealing with the effects of rural growth rather than as a regional agency empowered to direct and control it. I am enclosing two reports that, while not directly on your topic, may give you a clearer picture of our region and concerns to back-up our questionnaire responses.

We would be interested in receiving a copy of your study report when it is completed.

Sincerely,

John Heseltine

John M. Heseltine
Planner II

JMH/acw(45)

cc: William B. Campbell, Senior Planner

CITY OF SASKATOON

R.M. COPE
CITY PLANNING OFFICER

September 8, 1986

CALGARY REGIONAL PLANNING COMMISSION
RECEIVED
SEP 11 1986

Mr. Karl Nemeth
Manager, Urban Planning Division
Calgary Regional Planning Commission
4303 - 11th Street S.E.
CALGARY, Alberta
T2G 4X2

Dear Mr. Nemeth:

Please find attached the responses to your questionnaire.

At present, the area designated for future growth outside of the corporate boundaries of Saskatoon provides, at best, a two year reserve of land. It is the intent of the Planning Department to increase this reserve from ten to twenty years. This action, however, is a year away.

I would be interested in receiving a copy of your results when they are complete. If there is a charge you may bill this department.

If you have any further questions, you can contact myself at (306) 664-9687.

Yours truly,

David A. Dacquisto

David Dacquisto
Planner III

DD/pdg
Attach.

City of VICTORIA British Columbia

City Hall
Centennial Square
Victoria, B.C.
V8W 1P6
(604) 385-5711

RECEIVED
SEP 15 1986

Mr. Karl Nemeth
Urban Planning Division
Calgary Regional Planning Commission
4303 11 Street S.E.
Calgary, Alberta
T2G 4X1

Dear Mr. Nemeth:

Re: Calgary Region - Fragmentation Study

Your letter to Mr. Greenhalgh (who has retired as Director of Planning and has been replaced by Mr. Len Vopnfjord) was referred to me. As the City of Victoria is almost fully developed and is surrounded by adjacent municipalities the issue of the fragmentation of rural land does not directly apply to this municipality.

The matter is of regional concern, however, and I have forwarded your letter to Mrs. Jane Seright, Coordinator, Regional Information Service of the Capital Regional District. The CRD recently spearheaded a review of regional growth and its implications with respect to housing. I have also forwarded your letter to Mr. Allen Hopper, the Director of Planning of the Municipality of Saanich, in which this issue is an ongoing concern.

Yours truly,

Brian Sikstrom
Planning Officer

208(x)

Greater Vancouver Regional District
4330 Kingsway, Burnaby, British Columbia, Canada V5H 4G8

Development Services Department
Telephone (604) 432-6350

September 15, 1986

Mr. Karl Nemeth
Manager
Urban Planning Division
Calgary Regional Planning Commission
4303 - 11th Street S. E.
Calgary, Alberta
T2G 4X1

CALGARY REGIONAL PLANNING COMMISSION
RECEIVED
SEP 23 1986

Dear Mr. Nemeth:

Re: Fragmentation Study Survey

GVRD Development Services does not have the information required to complete your fragmentation study questionnaire. Land use regulations in Greater Vancouver are administered by the individual municipalities, except in the case of three unorganized areas, and you may find other contacts more helpful to your study.

The municipality of Surrey has a history of rural fringe expansion issues and you may wish to contact Mr. Graham Murchie, Planning Director, District of Surrey, 14245 - 56th Street, Surrey, B. C. V3W 1J2. A second contact I would like to suggest is Ms. Anne Kennedy, Central Fraser Valley Regional District, Box 490, 26982 Fraser Highway, Aldergrove, B. C. V0X 1A0. This area is expanding rapidly and I expect has experienced similar issues.

Enclosed is a copy of the former official regional plan for the Lower Mainland which was cancelled in 1983. It endeavoured to deal with the issues of the transition of rural land to urban uses through minimum parcel sizes and you may find it of interest.

Yours very truly

Hugh Kellas.

Hugh Kellas
Development Services Coordinator

HK:hw

Enc.

City of Toronto
Planning &
Development
Department

Stephen G. McLaughlin
Commissioner

City Hall
Toronto Ontario
M5H 2N2

(416) 392-[illegible]

CALGARY REGIONAL PLANNING COMMISSION
RECEIVED
SEP 23 1986

Reference / Subject:
Fragmentation Study Survey

Reply Attention:
Bruce Gray

Telephone:
392-7185

September 15, 1986

Mr. Karl Nemeth
Manager, Urban Planning Division
Calgary Regional Planning Commission
4303 11th Street SE
Calgary, Alberta
T2G 4X1

Dear Mr. Nemeth:

I am writing to you regarding your letter of August 25, 1986 requesting our response to your questionnaire and our comments and materials relating to regional land use controls.

We have attempted to answer your questions as effectively as possible although many elements inherent in these questions scarcely apply to our municipality. The City of Toronto grew to its present size through a series of annexations which began a few years after the first urban settlement in 1793 (see enclosed Annexation map).

Today the City of Toronto is a municipality with an area of about 35 square miles and a population of about 600,000 that is no longer growing. The City is surrounded by and part of a federation of large municipalities, the Municipality of Metropolitan Toronto, that is also scarcely growing. These in turn are surrounded by newer fringe suburbs where most of the growth in population and urban development is taking place.

The pattern of urban development in the Municipality of Metropolitan Toronto, including the City, is illustrated in general terms on the enclosed street map. Most of the City has reached a state of mature development. The only area in the City with a large amount of unserviced and undeveloped land is the port industrial area. This area was created through a landfill operation on the waterfront during the early decades of this century. Historically, it has been held in reserve for port and related industrial operations.

I have also enclosed Research Bulletin 25, produced by the City of Toronto Planning and Development Department, Research and Information Section. This bulletin describes Toronto area population trends and their implications for planning in the Toronto area.

I hope you will find this material useful. Please contact me if you have further inquiries. I would be pleased to receive a copy of your study when it is completed.

Yours sincerely,

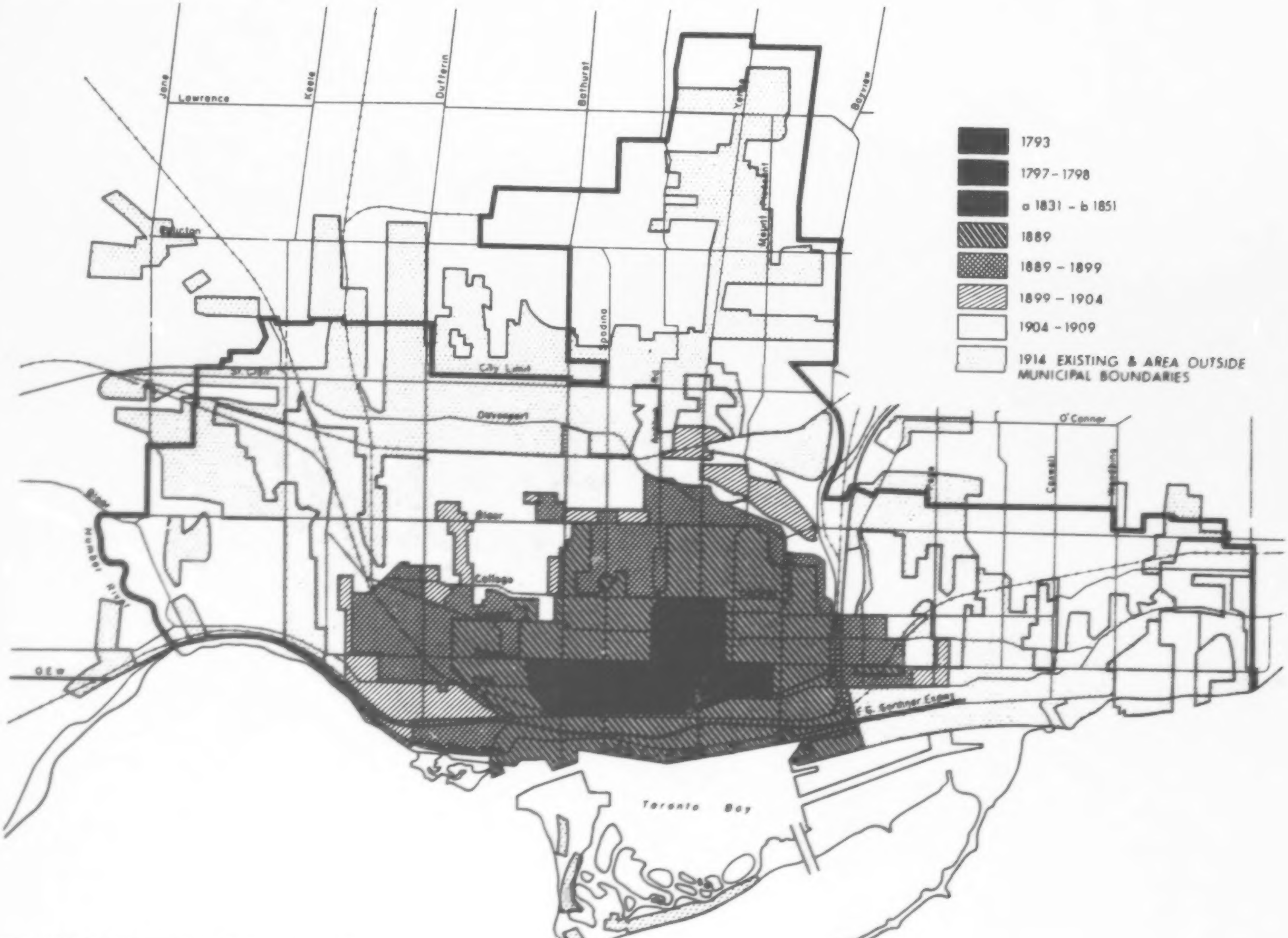
Alan S. Mitchell

Alan S. Mitchell
Acting Program Manager
Research and Information

BG:mjs
Encl.

3.17

GROWTH OF DEVELOPMENT, 1793-1914


Jane
Lawrence
Keele
Dufferin
Bathurst
Yonge
Mount Pleasant
Bayview
Eglinton
St Clair
City Limit
Spadina
Davenport
O'Connor
Bloor
College
Humber River
QEW
F.G. Gardiner Expwy
Toronto Bay
1793
1797-1798
a 1831 - b 1851
1889
1889 - 1899
1899 - 1904
1904 - 1909
1914 EXISTING & AREA OUTSIDE MUNICIPAL BOUNDARIES

Source: City of Toronto Planning and Development Department

208(xiv)

COMMUNAUTÉ
URBAINE
DE MONTRÉAL

Service de la planification
du territoire

2580, boul. Saint-Joseph est
Montréal H1Y 2A2
(514) 280-6700

September 22, 1986

M. Karl Nemeth, Manager
Urban Planning Division
Calgary Regional Planning Commission
4303, 11th Street S.E.
Calgary, Alberta
T2G 4X1

Dear Sir,

Upon the request of M. Michel Laville, Director of Planning of the Ville de Montréal, I have completed the questionnaire you sent to him. The Montréal Urban Community is responsable for the Development Plan of the island of Montréal which regroups 29 municipalities including the city of Montréal. We are therefore the sole body that plans at a regional level as does your Commission.

I am including along with the questionnaire a copy of our latest development plan, which I hope will be of interest to you in your survey.

I would appreciate if you could send me any new document published by your Commission and, of course, I would be interested in receiving the results of the study you are undertaking.

Yours truly,

André Cardinal
Assistant Director of Planning
Town Planning Department
Montréal Urban Community

AC/dp

Ville de Montréal

Service de l'urbanisme

85, rue Notre-Dame Est
Montréal H2Y 1B5

Le 15 septembre 1986

Monsieur André Cardinal
Assistant au directeur - coordination
Planification du territoire
Communauté urbaine de Montréal
2580, boul. Saint-Joseph Est
Montréal (Québec)
H1Y 2A2

Cher Monsieur,

Nous avons reçu la lettre ci-jointe de la «Calgary Regional Planning Commission».

Le schéma d'aménagement de la C.U.M., dans sa forme récemment adoptée, m'apparaît comme la meilleure réponse à produire aux questions posées.

C'est la raison pour laquelle je me permets de vous transmettre les présentes en vue de répondre au requérant.

Avec mes remerciements, veuillez agréer, cher Monsieur, mes salutations les plus cordiales.

Le directeur,

Michel Laville

ML/mq

p.j.

208(xvi)

City of Lethbridge
ALBERTA - CANADA

OFFICE OF

PLANNING AND DEVELOPMENT

REFERENCE: Our File No. 135
Your File No. 20-01-05-09-(1)

CALGARY REGIONAL PLANNING COMMISSION
RECEIVED
SEP 16 1986

September 11, 1986

Karl Nemeth, Manager,
Urban Planning Division,
Calgary Regional Planning Commission,
4303 - 11 Street S.E.,
CALGARY, Alberta.
T2G 4X1

Dear Sir:

RE: Calgary Region - Fragmentation Study

Further to your request, enclosed is the completed Fragmentation Study Survey. As mentioned in our answers to your survey, the City and County of Lethbridge have a Joint General Municipal Plan in place which establishes some basic policies with respect to subdivision and development in the area surrounding City limits, and also creates a process whereby the City, County and Village of Coalhurst consult each others on matters which may be of mutual impact.

Enclosed for your perusal is a section of our recently adopted Land Use By-law that affects the areas within City limits which have not yet been developed to urban densities. This Urban Reserve District controls subdivision and development until the required municipal services are available and the necessary area structure plans are in place.

If I can be of further assistance, please call me at 320-3920.

Yours truly,

F. W. Michna,
Planning Director.

Enclosure

910 - 4th AVE. SOUTH • LETHBRIDGE, ALBERTA, CANADA T1J 0P6 • PHONE (403) 320-3000

THE CORPORATION OF THE DISTRICT OF SAANICH
770 Vernon Avenue, Victoria, British Columbia V8X 2W7 — Phone (604) 386-2241

September 11, 1986

CALGARY REGIONAL PLANNING COMMISSION
RECEIVED
SEP 16 1986

Calgary Regional Planninc Commission
4303 11th Street S.E.
Calgary, Alberta
T2G 4X1

Attention: Karl Nemeth, Manager Urban Planning Division

RE: CALGARY REGION - FRAGMENTATION STUDY

Your letter and questionnaire addressed to the City of Victoria has been sent to us for reply. Since our municipality is one half urban and one half rural the City felt we were in a better position to fill out the questionnaire.

Enclosed is a copy of Saanich's Official Community Plan for your information. If we can be of further assistance please do not hesitate to contact us.

Yours truly,

Alan Hopper

A. HOPPER, FRTPI, MCIP
MUNICIPAL PLANNER

Enclosures

CITY OF KELOWNA

763-6011 CITY HALL, 1435 WATER ST., KELOWNA, B.C. V1Y 1J4

September 29, 1986

Calgary Regional Planning Commission
4303 - 11th Street S.E.
Calgary, Alberta T2G 4X1

Att. Karl Nemeth

Dear Sir:

Your enquiry of August 25, 1986 regarding your Fragmentation Study is acknowledged, and the completed questionnaire enclosed herewith as requested.

This office would be interested in the results of your examination, and requests that a copy of same be forwarded at your convenience.

Yours truly,

L.V. Foster, CSLA, MCIP
Senior Long Range and Policy Planner

encl.

THE CITY OF LONDON, ONTARIO, CANADA

208(xix)

K. L. PERRY
Director of Planning & Development

L. E. DRAHO
Director of Planning

300 Dufferin Avenue
P.O. BOX 5035
LONDON, ONTARIO N6A 4L9

DEPARTMENT OF PLANNING & DEVELOPMENT
PLANNING DIVISION

IN REPLY PLEASE REFER TO

OUR FILE NO ______________

ATTENTION Ellen Cramm

TELEPHONE 661-4980

October 1, 1986

Mr. Karl Nemeth
Manager
Urban Planning Division
Calgary Regional Planning Commission
4303-11 Street S.E.
Calgary, Alberta
T2G 4X2

Dear Mr. Nemeth:

RE: Fragmentation Study Survey

In response to your letter of August 25, 1986, we have completed the Fragmentation Survey as requested. This letter will provide further explanation of the information given through the questionnaire.

None of the land outside of London's City limits has been "protected" in any way for future City expansion. However, we are currently conducting a study of existing conditions within the City's Fringe Area. Where possible, questions regarding land outside the City boundaries have been answered based on information gathered for this fringe area study.

For your information, a map of the fringe study area has been included. Land covered by the fringe study area is currently within the Townships of London, West Nissouri, and Westminster, as indicated on the map.

Regarding land within the City limits available for future expansion, where information regarding these lands has been provided, this information refers to the Jackson Planning District (see enclosed map).

If you require any further information on this topic, please do not hesitate to call this office.

Yours truly,

Ellen Cramm

Ellen Cramm
Planner-Policy

EC:jm
Encl.

CALGARY REGIONAL PLANNING
RECEIVED
OCT 7 1986

L 15 B

THE CORPORATION
OF THE DISTRICT OF
BURNABY
4949 Canada Way, Burnaby, B.C. V5G 1M2
Planning & Building Inspection Department
Telephone (604) 294-7400

CALGARY REGIONAL
SEP 29 1986

1986 September 24

Mr. Karl Nemeth
Manager
Urban Planning Division
Calgary Regional Planning Commission
4303 - 11th Street S.E.
Calgary, Alta.
T2G 4X1

Dear Mr. Nemeth:

Re: Fragmentation Study - Calgary Region

Please find enclosed, the completed fragmentation study survey forwarded to this department. In completing the questionnaire, we have disregarded the partial or total redevelopment of lands in the estimation of how many years land supply is remaining. In addition, all of our undeveloped areas which are available for development are designated by area plans for their intended land use. Most have trunk services available and are fully serviced by the developer at the time of their development. As such, these lands do not have a "reserve" status, but instead are regarded as major development opportunities in the Municipality that are typically processed as comprehensive development areas when market conditions permit.

Thank you for the opportunity to participate in your survey. I would appreciate receiving a copy of your results upon the completion of your work.

Yours truly

A.L. Parr
DIRECTOR PLANNING &
BUILDING INSPECTION

JSB/mcb
Enc:

cc: Assistant Director - Long Range Planning

THE CORPORATION OF THE CITY OF BRANTFORD
CITY HALL - 100 WELLINGTON SQUARE - BRANTFORD - ONTARIO - N3T 2M3
TELEPHONE 519-759-4150

September 19, 1986

CALGARY REGIONAL PLANNING COMMISSION
RECEIVED
SEP 26 1986

Karl Nemeth, Manager,
Urban Planning Division,
Calgary Regional Planning Commission,
4303 11th Street S.E.,
CALGARY, Alberta.
T2G 4X1

Dear Mr. Nemeth:

Re: Calgary Region - Fragmentation Study

Please find enclosed a completed copy of the survey form which you forwarded to us in connection with your Fragmentation Study.

You will note that the reply to Question 1 makes a distinction between lands designated for residential use and lands designated for industrial use. In addition to these lands an area of some 850 acres has been designated for industrial use following the removal of mineral aggregate and rehabilitation of the lands. At this time however, it has not been determined how many year's supply can be made available here. The same condition applies to some 530 acres of land (referred to in Questions 2 and 3) not currently within the City boundaries but which, by agreement with the adjacent Township of Brantford, is scheduled to be annexed by 1996. This land is also intended for industrial use following the removal aggregate.

I might point out that in 1981 a large amount of land was annexed to the City from the surrounding Township under an Agreement which placed a 20 year moratorium on further annexations and which established a "green belt" roughly a mile in width on Township lands surrounding the City. This belt is restricted to agriculture and related uses with a view to forestalling the further occurrence of urban sprawl.

I hope this information will be of use to you in your study. I would be interested in receiving a copy of the results of your study in due course.

Yours truly,

J. Peter Atcheson, M.C.I.P.
Director of Planning.

END OF SURVEY CORRESPONDENCE

JPA:RG/bt
Encls.

Fragmentation - City of Calgary - Presentation by Marj Young

Concerns:

(1) location of country residential development
(2) c.r. not a transition use from agricult. to higher densities
(3) changes in land use are owner initiated

- C.R. not a transitional use: differences in design and patterns
- attitude of owner - re development and subdivision of land.
  - ° example of how municipality wants land subdivided and owner does not proceed - costs.

Pine Ridge

- replot required as 20' lane needs to be 30' but can't get all owners to agree - since 1911. Replot requires 90% agreement.

  - ° city does not want to expropriate for these purposes.
  - ° acreage assessment pipes - put in place by City originally and then when developed the Developer pays the City back.
  - ° City bearing the expense and debt of that pipe - affects the City's debt carrying capacity.
  - ° also if land left long enough then residents become committed to it staying vacant or park.
  - ° also the factor of when the debt was incurred as related to present value.

Anderson Road - 1911/annexed 1956 - still no redevelopment.

Crowchild Trail - subdivision 1950/annexed 1961 - still no resubdivision
- houses - wells/septics/gravel roads

Costs
  - ° inter-relationship of land owners and neighbours
  - ° costs to City as have to deal with this as a special unit

- ° City act as a facilitator to these people
- ° some want city services and do pay costs re; taxes
- ° City geared to operate on urban services and urban density.

Pump Hill - 1911, annexed 1956.

- ° redevelop in 1976 but only on a 10 acre basis
- ° replot in office but has not occurred
- ° efficiency of use of land - not getting the same number of units per acre (Developers 5 acres on tract of bare land) here getting 2 units
- ° not a problem on site specific basis but on accumulative basis it is
- ° problem re: develop, staging for servicing (developer cost and risk re: recovering front end servicing costs) - indiv. must size for everyone that will use it. (City acts as a facilitator re: servicing agreements) Developer doesn't know when will get money back.

Canyon Meadows - annex. 61/subdivision 64

- 3 acre parcels
- caveats on titles re: servicing, etc. and an urban overlay done and on title of property.
- 1967: Nu West bought 3 acre lots undeveloped and resubdivided it.

- ° access to 14th Street cancelled and houses destroyed in order to fit re-orient. of street.
- ° Canyon Meadows Drive - change in municipal standards - road widening required that the overlay didn't accommodate
- ° issue: who gets park?
  who gets H.D. develop?
  (how do you redistribute the land value)
- ° attitude of landowners: lifestyle choice/investment

Summary - City sees problems as to:

A. Timing of Redevelopment:

- ° City has to have available land supply and services when Develop. needs it. (absolute no. of acres plus choice)
- ° City policy of 30 year land supply in its boundaries

GMP - 20 yr/ view ↓ Development Process
ASP - roads, utilities, etc
Sub/Land Use
Municip. Servicing.

- City needs this process to be consistent - reliable and predictable flow of land through the system
- need to produce about 800 to 1300 acres serviced land each year
- City is not a developer but must accommodate developers.

Our experience is that in the 30 year supply picture we can't count the land in acreages (not predictable)

B. Why: 1. multiple ownership (takes longer)
2. developers land assembly risk.

Low risk - one owner
- one set of design
(Developer's - volume price - per acre basis
work on 1/4 - one deal gives control of whole 1/4 section
section basis) - bank financing easier for front ending develop.

High Risk - country residential
- different attitudes of these different landowners
- multiple sets of buildings (costs)
- per acre price higher
- must conclude several deals before has control
- can't compete/usually develop. not involved but owners.

3. owner's initiates/objectives/attitudes
4. Loss of Developer as a Broker to move the land

C. Land Development Process Within Urban Centre

- single owner vs multiple owners

	single owner	multiple owner
GMP Classif.	3 mths	3 mths
Land Assembly	?	? + 2 - 5
ASP	9-12	? 5 - 10
LUB	3 mths	3 mths +
Subdiv/Replot	1 yr	? 5 to 10 years
Munic. Servicing	next const. yr.	same
Construction	discretion	same
	2 - 4 yr process	? multiple years

D. Efficiency of Use of Land

Internal
° Achieving Urban Objectives
° Potentially Inefficient road/utility networks

External
° Leapfrogging - someone front ending the expense of servicing

E. Serving the New Residents

° Building location orientation
° Surrounding Land Uses
° Changing municipal standards
° Location of open space/green space - er
° Location of parks/school sites - mr

Conclusion

° replots not being used and won't solve all the problems

° country residential - a retrofit/cost
not a predictable supply of land (30 yrs.) for the City. - don't count the c.r. we go past.

- c.r. not a transitional use but its own end use - i.e. put it somewhere where the city won't be

Marg Young, Senior Planner, City of Calgary. **Summary Notes on Meeting held on November 21, 1986.**

Country Residential development is viewed by the City as an "end use" and not as a transition use. This land use should be put in areas that are not intended for future urban use.

Country Residential developments must be reviewed in terms of three things - location, intensity and timing.

Agree with the M.D. of Foothills policy of providing a C.R. market within easy commuting distance of the City (Priddis, 22X) but not on future urban expansion lands.

Comments on Water Study: In the Chestermere Lake matter, the City provided water on the basis that they "would do it before we're told to do it by the Province". It is important to tie engineering and planning together in these matters.

In Bowness/Montgomery, the City had to spend megabucks to upgrade to city standards.

Uni-City Discussion:
Object to a city on the boundary because in terms of overall costs it is a duplication of monies. It can't be the most efficient pattern ofdevelopment.

Problems with regional governments in that they are simply trying to get back to the uni-city concept. The macro system works efficently and constructively weighing the sytems needs for public good against neighbourhood or individual interests. (ie. LRT).

Regional government's goal is to integrate public systems.

If the uni-city principle breaks down, someday will have to create another level of government to provide integrated public services. The ideal solution is to have services under control of one jurisdiction. Calgary is the envy of North American cities.

What is the impact of Country Residential on rural municipality?

Rocky View believes that "user" pays in M.D. but what about school, roads, service costs? Does C.R. pay its own way?

The City estimates that there is approx. a 60 year land supply of C.R. on the city's fringe.

Rural Municipality Should Control Inventory

C.R. is a viable use that needs to be met. The problem in the Region is that location of the C.R. There are enough places to locate this rural use outside of the City's growth corridors. As well, there is sufficient inventory to meet all the demand near the City. The rural municipalities should have to demonstrate need and demand for additional C.R. parcels.

By controlling the location of this land use, you are constraining individual landowners but not the market.

If C.R. is an interm land use, then give us the Time Period.

Urban Fringe

Looking at policy areas as well as a boundary. Sub-areas for uses such as C.R. as well as a referral policy area.

Summary Notes on Meeting
With County of Strathcona

Date: December 17, 1986 Time: 10:00 a.m.

Attendance: Eugene Lee, Director of Planning & Development, County of Strathcona
Ed Chanter, Senior Planner, County of Strathcona
Richard Quail, CRPC
Sandra Murtack, CRPC

* *

We discussed their new GMP. Of interest was a Transition Area - Holding Part for Urban Expansion of Sherwood Park. This area was held to agricultural activities. If CR was to be allowed, then 'two' plans required - one showing future urban overlay breakdown. But they intended it be preserved in agricultural uses until needed for urban densities.

They explained that Sherwood Park is defined by the Urban Service Boundary. This boundary is used by the Province in terms of grants, etc.

In terms of the political structure of the County, they explained there was an urban/rural split. This split was based on:

- 14,000 residents on acreages and S.H. parcels
- 4,000 farmers
- 30,000 residents in Sherwood Park.

They discussed the concept of Suburban Estate Development of one-half to one acre-lots on full urban services. This land use would be one mile around Sherwood Park. The problem, however, is who pays for oversizing of services.

Taxes:

- about $1,500 year

- 45% of municipal budget is spent on roads - they find now, that with all the Country Residential development extending everywhere, that they can only maintain a concentrated road network.

Country Residential in Strathcona:

- large land supply with declining values ($2,000 to $3,000 an acre)
- at present there are 1,700 vacant country residential parcels
- "consumptions" have declined in recent years from a high of 185 units per year in the late 1970's to a range of 40 to 50 units in 1986
- residents are realizing the higher indirect costs of country residential living such as three to five acres being too big to maintain, commuting, desire for better and more services

Regional Plan:

- plan is vague and provides little guidance
- Edmonton region has an inter-municipal situation that makes regional planning intolerable
- Plan is not spatially orientated
- proximity of major urban centres is a major stumbling block to regional planning
- regional co-operation and orderly urban fringe planning not possible
- all act as mutually exclusive entities
- historically, cities were there and never annexed

Fort Saskatchewan Joint GMP:

- it is really an annexation agreement
- County will preserve expansion areas in agricultural uses for Fort Saskatchewan - regard Joint GMP annexation lands as urban protection areas

History of Sherwood Park:

- location a political decision of Province
- called Campbell Town Heights

Country Residential as a Transition Use to Urban:

- country residential resubdivision to urban densities is "absolutely impossible" in their experience
- you'll have an area with 35 landowners, and to do a replot scheme, inevitably several landowners will like the present lifestyle and want to keep it that way
- you have a mix of interests when there are several landowners and this makes any agreement on resubdivision hopeless
- inevitably it will involve relocation of houses/roads, etc.
- problem re: servicing as to how can we size pipes? How can we estimate servicing demands?
- country residential is a liability and not an asset - it is subsidized in the County by a strong industrial base

Country Residential Fiscal Impact Study:

- was to be undertaken but never was completed
- problem was accounting costs as municipality is based on service delivery to people
- revenue easy to determine, but costs are difficult - they cited examples for police, garbage, administration

GMP Objective:

- plan is to have more compact country residential growth - infill and not new country residential areas

Sherwood Park - Urban Service Area:

- has ASP's to additional 20,000 population

Advice re: Urban Fringe:

- most difficult challenge for planners today
- timing problem of urbanization - how do we manage over time?

- task to minimize land use conflicts
- shouldn't say urban fringe is to protect for farmland - farmers will not agree and will create conflict
- shouldn't be using protection of agricultural land as a tool to protect urban expansion lands
- with respect to the fragmentation of agricultural lands, the County planners suggest that smaller land units can result in increased agricultural productivity
- the challenge facing planners is to recognize the point at which the drop in agricultural productivity occurs relative to parcel size, and to minimize the land use conflicts

Vancouver Experience re: Country Residential:

- allowed massive, extensive Country Residential development in 50's and 60's
- it is now a servicing mess
- country residential lands are an assembling problem for developers
- roads/schools a mess
- country residential has been jumped over and then you find urban development
- "if you put in country residential, you can kiss the land good-bye for future urban development"

Planning:

- urban fringe should have options for future community expansion, rather than act as a closed system

They noted how the County in many respects is a "region" unto itself and not just a municipality of urban or rural persuasion.

Summary Notes on Meeting With City of Edmonton

Date: December 17, 1986 Time: 2:00 p.m.

Attendance: Mr. Malcolm Barrow, Director, Information Systems Management, Long Range Planning Branch
Mr. Ken Zahara, Principal Planner, Statutory Planning, Long Range Planning Branch
Three other Planners
Richard Quail, CRPC
Sandra Murtack, CRPC

* *

Fragmentation:

- problem as to scattered country residential and ownership pattern
- cited examples such as Millwoods, where the City had to incorporate country residential development - they found cost inefficiencies and additional design costs as compared to a bare quarter section
- another example was the North Edmonton Lake District - the country residential development, which should logically be first phase of contiguous urban expansion will be the last phase of development
- their replot experience is that country residential is at a minimum a twenty year delay in the normal development process
- the developer must pay for and pro-rate oversizing through the country residential area
- country residential represents a long delay in the normal development process
- at present, the City assumes urban densities for servicing purposes for country residential lands
- there are also heavy administrative costs with country residential
- you have to work around it as it will lag behind everything else

Country Residential Acquired After Annexation:

- used and still use existing Land Use By-laws of previous jurisdictions
- country residential infill allowed - but discourage any new country residential
- Edmonton has not seen any pressure for country residential infill or new country residential

Annexation Principle:

- don't leave anybody hurting
- this becomes a hurdle when you have urban centres on your boundary
- diseconomies of country residential development were long advocated by City of Edmonton

Uni-City

- "keep it" if Calgary can
- in Edmonton region there is a duplication of services with several urban municipalities in close proximity
- in terms of utilities - this has been resolved by a Regional Utilities Board set up by the Province
- police, solid waste, fire, etc. are all problem areas re: services
- as well you get different service levels and standards between municipalities (i.e. street plowing, etc.) - each municipality sells a different package of goods
- a fragmented service system means higher costs (overhead, etc.)

Edmonton Region:

- characterized by competition in the marketplace and for employment/revenue generation

Annexation History:

- problem not country residential and fragmentation but industrial development and problem of controlling its development on its boundaries
- argued need for urban growth management strategy

Regional Issues:

- solid waste
- transportation
- these require co-ordination and negotiation

Edmonton Land Supply:

- at time of annexation had a seven year supply
- 20-25 year supply for residential in ASP's and then have agricultural areas
- in total a 60+ year land supply

Role in Regional Planning:

- City's land use expansion areas are already secured
- involved only if an issue came up such as new Sherwood Park, etc.
- fragmentation not an issue

Servicing:

- city front ending to service areas outside boundary can create problems if the areas don't do well re: growth
- don't use utilities as a leverage for land use control as the province can step in and create a regional system and then have no controls
- Edmonton just supplies as demanded and has no control

Assessment - Stu Scott, re: Country Residential:

- as soon as annexed, massive taxation increases, sometimes tenfold
- rural residences increased demand for services
- get same level of service they did in rural municipality and no more

Regional Government:

- unlikely in this province, given political situation
- will get regional authorities for provision of services rather than regional government

Summary Notes on Meeting
With Edmonton Metropolitan
Regional Planning Commission

Date: December 18, 1986 Time: 9:00 a.m.

Attendance: Marlene Exner, Senior Planner
Bea Frickner, Planner
Doug McDonald, Planner
Richard Quail, CRPC
Sandra Murtack, CRPC

* *

Fragmentation of Urban Growth Corridors:

- Region enforced distances between country residential and urban boundaries under Subdivision Regulations
- therefore with Edmonton and others, country residential is not a problem near urban boundaries
- today there is no demand or activity for country residential
- huge surpluses of country residential in the region
- perhaps we should contact St. Albert: they are landlocked
- replots don't work
- region only asked for waivers for single parcel country residential, not multi-parcels

Edmonton Regional Growth Study:

- prior to annexation, region was characterized by Edmonton, being a small three member minority, pitted against urban/rural municipalities
- region was not committed to City of Edmonton
- difficult to convince them of need for an overall growth strategy
- if region was ineffective Strathcona was the epitomy of what was wrong in the region

- divided region: small urbans aligned with rurals against the City of Edmonton

Present Day:

- after annexation - got a whole re: definition of the metropolitan region
- annexations for control - creates an insular approach in the region

Leduc Annexation:

- grab for an industrial market/assessment base
- uni-city grab

Zoning:

- the counties and rural municipalities pre-zone land to uses
- Sturgeon - held as agricultural until developed

Regional Utilities:

- in region, there are fragmented authorities
- no role by Regional Planning Commission Re: regional utilities for water and sewer lines
- province steps in and does it - no input or involvement with Regional Planning
- they have no input into design, location of systems, etc. (sited population projections example)
- regional services are a real struggle, a lot of inefficiencies (i.e. transit example with St. Albert)
- there is no "regional concept"
- no co-ordination between regional services and land use

SUMMARY OF MEETINGS HELD IN ONTARIO

May 22, 23 and 26, 1986

TOPIC: FRAGMENTATION IN THE URBAN FRINGE: The Ontario Experience
BY: R. Quail

Professor John Horton,
School of Urban and Regional Planning,
University of Waterloo.

Professor Horton reviewed the video tape that had been prepared by the City of Calgary on fragmentation within the urban fringe and related his comments in regard to the Ontario situation. He felt there are essentially two routes to solving this problem of fragmentation: one is to have strong regional plan policies that prohibit and/or regulate the proliferation of rural estate development in the path of urban expansion; while the alternative (which often occurs in the absence of effective planning policies), is a propensity by the urban municipalities to undertake extensive annexations.

The experience in the Regional Municipality of Waterloo is a testimony to this dichotomous relationship. Prior to the formation of the Regional Municipality of Waterloo in the early 1970's, the region had witnessed some 54 annexation applications over a short period of time. The creation of regional government and the expansion of the municipal boundaries of all urban municipalities which accompanied this new form of government however, resulted in annexation activity dwindling to "almost nothing". As we will note in the next interview, the reorganization of government and the attendant strengthening of policies within what has now become the rural portion of the urban municipality has been partially responsible for fragmentation in the urban fringe being somewhat of a non-issue in this Region.

Dr. Horton concluded by suggesting that the rural/urban fringe land conversion process requires special attention, careful management and the political will to make it happen. His experience in the Region of Hamilton-Wentworth, for example, led him to suggest that a similar situation to Calgary's (based on the City's presentation) would have resulted in "anarchy" with every township going off in their own way.

Paul Mason,
Senior Planner, Department of Planning and Development,
Regional Municipality of Waterloo.

I explained to Mr. Mason what the purpose of my visit was and briefly summarized the City's position with respect to fragmentation in the urban fringe. He then proceeded to explain the methodology utilized by the Region in the preparation of Regional Plan Official Policies. The first step in this process is to forecast future population growth and activity for the Region. Historically, population growth in the Region has been almost totally due to positive-net migration with the patterns of migration activity reflecting the broader economic picture of southern and southwestern Ontario. As a result, the population forecasts for the Waterloo Region from 1981 to 2001 are based on a projection of economic activity in general and employment generators in particular. On the basis of these population forecasts, the Region then distributes the population growth among the major urban centres and, to a much lesser extent, the hamlets and villages in the rural areas.

In addition to the population forecasts, the Region undertook a very detailed study of trends in land utilization within the urban and rural component of the Region, with a view towards determining the major urban centres' land requirements to the Plan's horizon year (2011). In this manner, the Region feels they have established a credible baseline inventory for monitoring future changes and assessing the need for expansion of the settlement areas and/or the creation of new communities.

The next document that was reviewed, is a discussion of rural land severance policies in the Region and for our purposes, there is an interesting discussion of severance activity within the extensive rural areas that are within the three urban municipalities of Kitchener, Cambridge and Waterloo. Severance activity within the designated growth areas has been kept to a "low level . . . that may be indicative of success in restricting helter skelter development within designated areas, successful policies outside designated areas, and the fact that most of the candidate lands are held in large blocks in anticipation of development".

The final document that we discussed was the Regional Official Policies Plan for Waterloo and, for our purposes, Chapter 5 contains Settlement Policies to direct growth. As previously mentioned, growth is directed to the major urban centres and beyond the urban area, the majority of "non-farm growth" will occur in the major serviced rural towns.

Mr. Mason suggested that, unlike our situation in the West, the rural lifestyle holds very little appeal to urban residents in this part of Ontario. With the exception of one or two land severances per year, the Region of Waterloo has prohibited "rural estate development" except where it has constituted an expansion of an existing hamlet or village. Many of the former rural residential subdivisions approved (primarily 10 acre parcels) have never been built upon and were usually kept in agricultural production. Indeed, when the Region was preparing their Official Plan, they received overwhelming support from the rural constituents for a restrictive rural (non-farm) land severance policy. It appears that the pre-regional government policies had a universal rights policy somewhat similar to ours. This resulted in some very destructive and socially divisive trends in the rural society as a result of within-family competition for that one parcel and an emerging dependence on "subdivision equity" as a means of financing the farm operation. The township municipalities saw this as a no-win situation and were instrumental in the introduction of a restrictive rural land severance policy.

In terms of the relationships between the different levels of government respecting the formulation of regional plan policies it roughly resembles the following:

- Region determines population growth and housing units;
- Area municipalities determine densities and housing mixes;
- Region thereby determines future land requirement and in consultation with other regional and local authorities, directions of growth; and
- Provincial Government approves Regional Official Policies Plan.

Professor Len Gertler,
Head of the School of Urban and Regional Planning,
University of Waterloo.

Professor Gertler reviewed the City's fringe presentation and had a number of observations based on his knowledge of the Calgary Region and his experiences as the Director of the Edmonton Regional Planning Commission during the mid to late 1950's. He suggested that the clustering of small holding lots on three acre or less parcels should not be considered an impediment to urban growth. Many of the present day Calgary issues are reminiscent of the dialogue associated with country residential development in the Edmonton area during the 1950's. At that time they decided to permit the creation of country residential parcels (3 acres) provided they met certain criteria. They undertook an analysis of the Region's land capability for country residential purposes including the recreational land capability, identification of scenic sites and those areas contiguous to hamlets that were acceptable for clustered country residential developments. He views the development of these clustered, small lot country residential subdivisions as a non-impediment to urban growth provided it is clearly identified and forms part of a more comprehensive plan for regional growth.

Dr. Gertler believes that the whole issue of country residential development located within the path of, and eventually forming part of the urban fabric, needs to be re-examined. What are the objectives in terms of an urban environment and can it not tolerate a variety of lifestyles including urban and rural residential. He advised that we should try and turn this whole issue "on its head". How sympathetic, for example, should the Commission be to "the City's pleas of unrolling our suburban carpet" for single family residential, commercial uses, etc. We might be wise to look at the diversity for more variety in housing within our regional context. This starts with the design characteristics of our sprawling urban areas and extends to the viability of country residential clusters to be subdivided down and, to be completed in a manner with quite limited incremental costs. If country residential is properly guided as to location, size of site, development standards, etc; then he feels there is good potential for ensuring its compatibility with urban growth.

With respect to the broader issue of managing growth, he suggested that Calgary is not too big to persist with the unicity system of intermunicipal government and regional planning co-operation. The regional planning commission, provided it functions with reasonable effectiveness, should ease some of those urban/-rural discontinuities. Dr. Gertler emphasized the need to see evidence about the incremental costs of urban growth extending into the urban fringe. This might be achieved by bringing the protagonists together and rather than perpetuating a style of urban and a style of rural growth, perhaps bringing the actors together into a planning design process and playing the mediation role would transform it into a constructive process along with diffusing some of the conflict.

Bill Pearce, Senior Planner,
Regional Municipality of Hamilton-Wentworth

I began this telephone interview with Mr. Pearce by explaining the research question we are examining and inquiring as to the situation in the Region of Hamilton-Wentworth. This Region has not seen a great demand for country residential development according to Mr. Pearce. They do have a couple of estate residential developments, one that was approved with municipal water. He also cited another situation in a rural settlement area where a settlement capability study was conducted and identified these lands vis-a-vis the Official Plan, for eventual servicing to urban standards.

The present maximum lot area requirement for estate residential is 1.5 acres and the dilemma they are facing is how to convert these areas to urban densities. They are developing site planning controls which require a breakdown to urban densities, comprehensive setback requirements that enable resubdivision, etc. However, the main problem (described as "often insurmountable") is how to plan and provide for the logical and reliable expansion of the urban fabric into these fragmented areas. In most of these situations the urban area and adjoining rural residential areas were within the same municipal jurisdiction however, the determining factor was always the willingness of the landowner to subdivide.

In the early years of this Region, they attempted through the Regional Plan to designate the land masses that, over the long term, would constitute the urban area on the basis of drainage areas and other engineering considerations. This method was not very successful though because of the willingness of certain landowners/developers to install pumping stations to compensate for these natural constraints. They have found the greater determinant of urban growth to be land tenure patterns and, in particular, the concentration of business and developer interests in land holdings.

Mr. William Addison,
Executive Assistant to the Planning Commissioner,
The Regional Municipality of York.

Our discussion began with a review of population growth in the Region over the last 15 years. Since I left Newmarket (my home town) in 1974, the Town has grown from approximately 12,000 residents to in excess of 36,000. The majority of this growth is emanating from Toronto which incidentally, has run out of vacant undeveloped land within its borders. As a result, all of the new "sprawl" type of low density development is occurring on its borders with roughly 40% of Metro's growth going to Peel, 20% to Durham and the remaining 40% to the Region of York.

In anticipation and/or response to this growth, the Ontario Government created the Regional Municipality of York in 1971. The creation of Regional Government not only introduced a two tier system of local government but also reorganized the former town and township governments. The jurisdiction of the towns was expanded considerably to include the fringe areas that would be needed for long term urban expansion. As a consequence, the issue of fragmentation within the urban municipality's growth corridors is not prominent at this time. One of the first policy statements produced by the Region however, was an interim policy on rural residential development and this document, in part, restricts rural residential development in areas forming an extension to the urban areas and prohibts "non-farm" residential development on prime agricultural land. The policy statement takes it one step further and identifies those areas where rural non-farm residential may be located. This interim policy is still in effect although a new Regional Plan will likely come into force within the next year.

Also reviewed was the 1984 Housing and Population Monitoring Report which provides an interesting example of this Region's efforts to monitor population activity along with a printout of region-wide subdivision activity from 1971 to present for all applications and with rural residential separated from the overall activity (an interesting example of their regional information systems capabilities).

Finally, we discussed a report adopted by Regional Council that responds to a recent policy statement of the Ontario Government on foodland preservation. The Province is suggesting/requiring the Region to take a much tougher stance on the preservation of prime agricultural lands and the Region is objecting to this. Their position, as deduced from Mr. Addison's comments, is that for the Region of York this initiative is about 10 years too late. During this time period the Region has experienced incredible growth pressures, some of which could not be accommodated without massive capital expenditures on sewage and water infrastructure. In order to accommodate these demands, the Region entered into a an inter-regional sewage servicing scheme, incurred multi- million dollar infrastructure and carrying costs and now is in a position where the economics dictate the encouragement of development over the preservation of agricultural lands. Mr. Addison suggested that the greatest determinants of growth in general are the regional servicing schemes developed. In their case, this has taken precedence over what might be considered logical growth directions or even areas identified to be environmentally sensitive.

In the final analysis, the Region of York seems headed for a period of accelerated growth, spurred on by its proximity to Metropolitan Toronto and the recent development of massive inter-regional infrastructure systems. Problems of fragmentation within the urban fringe are not considered to be serious at this time due to the prohibitive rural residential policies within "fringe areas" and the large inventories of vacant lands presently within the jurisdictions of the expanding urban centres.

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